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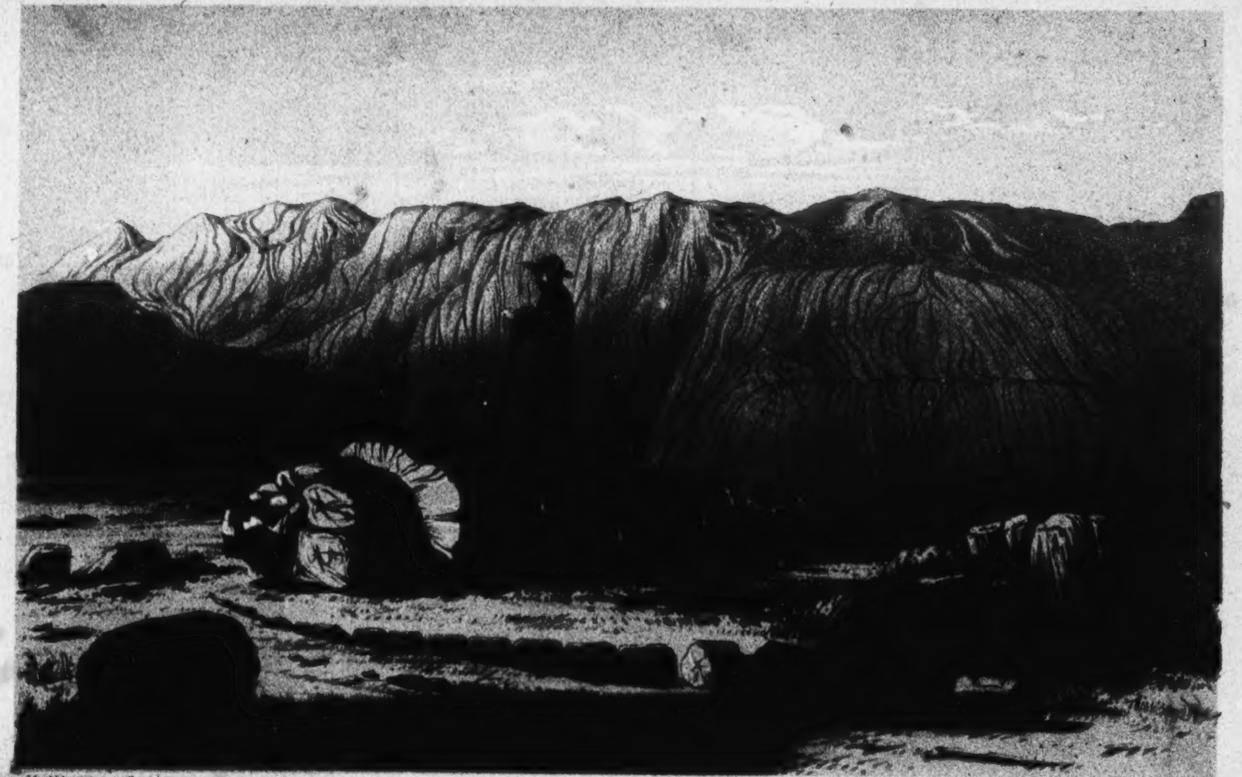
DIARY OF A JOURNEY

FROM THE

MISSISSIPPI TO THE COASTS OF THE PACIFIC.

VOL. II.



Möllhausen, Del.

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DIARY OF A JOURNEY

FROM THE

MISSISSIPPI

TO THE

COASTS OF THE PACIFIC

WITH A UNITED STATES GOVERNMENT EXPEDITION.

BY BALDWIN MÖLLHAUSEN

TOPOGRAPHICAL DRAUGHTSMAN AND NATURALIST TO THE EXPEDITION.

WITH AN INTRODUCTION BY ALEXANDER VON HUMBOLDT
AND
ILLUSTRATIONS IN CHROMO-LITHOGRAPHY.

TRANSLATED BY MRS. PERCY SINNETT.

IN TWO VOLUMES.

VOL. II.

LONDON
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CONTENTS
OF
THE SECOND VOLUME.

CHAPTER I.

Stay at Albuquerque.—Instructions from the War-Office of Washington. — Life in Albuquerque. — The Apache and Navahoe Indians.—The Rio Grande del Norte and its Valley.—Fandangos in Albuquerque - - - - - Page 1

CHAP. II.

Guides.—Leroux.—The Three oldest Backwoodsmen.—Passages in their Lives.—Kit Carson.—Arrival of Lieutenant Ives.—Departure from Albuquerque.—Journey up the Rio Grande.—The Indian Town of Isleta and its Inhabitants - - - 22

CHAP. III.

Colonel Frémont and his First and Second Journey.—Rio San José. — Ruins of an Indian Town. — Pueblo Laguna. — Covero. — Streams of Lava.—Mount Taylor - - - - 39

CHAP. IV.

Mr. Campbell's Journey to Fort Defiance.—Scarcity of Water. — Spring at the Foot of the Sierra Madre.—Passage of the Sierra

Madre.—Inscription Rock.—The Ruins of New Mexico, and their Origin.—Ruins on the Zuñi Road.—The Desolate City.—The Camp before Zuñi - - - - Page 64

CHAP. V.

The Sacred Spring.—Visit of Zuñi Indians.—Excursion to the Mountains.—The Bear Spring.—Return of Mr. Campbell from Fort Defiance.—Breaking up of the Camp at Zuñi.—Ruins of Old Zuñi.—Traditions of the Zuñi Indians.—Their Place of Sacrifice.—Pueblo de Zuñi.—Rio Zuñi.—The Indian Guides.—José Hatché and José Maria - - - - 87

CHAP. VI.

Colonel Frémont's Third Journey, and his Contests with the Natives.—Liberation of California.—Petrified Wood.—The Low Salt Lake.—Ruins of Ancient Settlements.—Navahoe Spring.—Navahoe Indians.—First Sight of the Francisco Mountains - 102

CHAP. VII.

Rio Secco.—The Petrified Forest.—Rio Colorado Chiquito.—Melancholy Account of the Moqui Indians.—Chevelon's Fork.—Stampedo of the Herd of Mules.—Arrival of Lieutenant Fitzball with the Escort.—A Reconnoitring Division sent out.—Slow Progress of the Expedition.—Ruins on the Colorado Chiquito.—The Casas Grandes on the Rio Gila.—Rio Salinas, and in Chihuahua.—Comparison of the Ruins on the Thirty-fifth Parallel with the Casas Grandes - - - - - 118

CHAP. VIII.

The Small-Pox in the Expedition.—Return of the Reconnaissance Party.—Departure from Colorado Chiquito.—Volcanic Soil.—Volcanic Cones.—The First Fall of Snow.—The Woods of the

San Francisco Mountains. — Deep Snow. — Subterranean Abode of the Natives. — Christmas Celebrations in the Mountains. — The Four chief Summits of the San Francisco Mountains. — Squirrels. — Leroux Spring. — Another Reconnaissance Party sent out - - - - - - - Page 142

CHAP. IX.

Stay at Leroux Spring. — Departure. — Mount Sitgreaves. — New Year's Spring. — Bill Williams's Mountains. — Grey Bears. — The Natives of those Regions. — Hostilities with the Whites. — Leroux's Narrative of his Adventures with the Indians. — Return of the Reconnoitring Party. — Further Progress of the Expedition. — Lava Creek. — Cedar Creek. — Partridge Creek - 160

CHAP. X.

Departure of the Reconnaissance Party. — Partridges. — Picacho. — Volcanic Ground. — Move of the Main Body. — Chino Valley. — Failure of the Reconnoitring Party to make its Way through the Mountains, and meeting with the Expedition at Picho. — Renewed Attempt to discover a Pass. — Leroux's Narrative of Colonel Frémont's Fourth Journey. — Destruction of Frémont's Expedition — His Rescue and Arrival in California - 174

CHAP. XI.

Turkey Spring. — Pueblo Creek. — Ruins on Pueblo Creek. — Advance of a Division of the Reconnaissance Party towards the South, and return to Pueblo Creek. — Spring of Pueblo Creek, and Pass in the Aztec Mountains. — The Watershed. — Snow Storm in the Mountains. — Return of the other Division of the Reconnaissance Party. — Journey of the Expedition through the Aztec Pass. — Yampay Creek. — Another Reconnoitring Party sent off. — Canon Creek. — Impracticability of the Ground. — Presence of Natives in the Ravine - - - - 191

CHAP. XII.

Tonto Indians.—Cactus Pass.—White Cliff Creek.—"Big Sandy."—Bill Williams' Fork.—The Giant Cactus (Cereus giganteus).—The Valley of Bill Williams' Fork.—The Beaver Village.—The Beaver - - - - - Page 210

CHAP. XIII.

Journey through the Valley of Bill Williams's Fork.—Dr. Bigelow's Arrival in the Camp.—News of the Reconnoitring Party.—Artillery Peak.—Reunion of the whole Expedition and Continuation of the Journey.—The Mountain Spring.—Indian Paintings.—Diminution of the Baggage.—Loss of Mules and Waggons.—Arrival at the Rio Colorado - - - 228

CHAP. XIV.

Journey up the Colorado.—The last Waggon abandoned.—Natives in the Valley of the Colorado.—The Chimehwhuebes.—Cutchanas and Pah-Utahs.—Barter Trade with the Natives.—Tradition of the sacred Oak of the Chauchiles Indians.—The Mountain Path.—The Mohave Indians - - - - 241

CHAP. XV.

Day of Rest in the Mohave Settlements.—Sports of the Mohaves. Shooting at a Target.—Journey through the Villages of the Mohaves.—Camp on the Shores of the Colorado.—Preparations for the Passage.—An Indian Family.—Passage of the Colorado.—Services of the Natives - - - - - 257

CHAP. XVI.

A Day of Rest on the Western Shore of the Colorado.—The earliest Accounts of the Indians of the Colorado.—Discovery of its Mouth. — Failure of the Attempt to sail up it. — Indian Guides. — Departure from the Colorado. — The Desert. — Want of Water. — The Mountain Springs - - Page 273

CHAP. XVII.

Division of the Expedition. — Scarcity of Water. — Desolate Mountain Land. — Sand Steppes. — The Dry Salt Lake. — Undrinkable Water. — Warning against the Indians. — Reunion of the Expedition. — Arrival at the flowing Water of the Mohave River. — Journey through the Valley of the Mohave. — Robberies of the Pah-Utahs. — Murder of a Muleteer. — Pursuit of the Savages. — Destruction of their Camp - - - 288

CHAP. XVIII.

Return of the Mohave Guides. — The Emigrant Road. — Meeting with Travelling Mormons. — News of the Murder of Captain Gunnison and his Officers by the Utah Indians. — Departure from the Mohave River. — The San Bernardino Mountains. — The Cayon Pass. — Rain. — Tempest in the Mountains. — Dismissal of the Labourers of the Expedition. — First Sight of the Coast of California. — The Mormons and their History - - 307

CHAP. XIX.

The Californian Rancheros. — Skill of Californian Horsemen. — Camp on San Gabriel Creek. — Mission of San Gabriel. — Missionaries in California. — Arrival of the Expedition at Pueblo de los Angelos. — Sale of Mules and Travelling Equipments. — Adventure on the Way to the Port of San Pedro. — Arrival at the Pacific - - - - - - - 326

CHAP. XX.

The Steamer "Frémont."—Passage to San Francisco.—Golden Gate.—Captain Sutter.—The Harbour of San Francisco.—The Town of San Francisco and the Mode of Life there.—Market-Houses.—Gaming-Houses.—The Chinese.—The Gold Mines Page 344

CHAP. XXI.

Giant Trees.—Embarkation on the "Oregon" Steamer.—The Harbour and City of Acapulco.—Five Hours in Acapulco.—Landing in Panama.—The Town of Panama.—Ride to the Railway Station.—Arrival in Aspinwall.—On Board the Steamer "Illinois."—Arrival in New York and Washington - 363

CHAP. XXII.

Report of the Secretary of War of the United States, Mr. Jefferson Davis, on the Route examined by the Expedition.—Conclusion 380

LIST OF ILLUSTRATIONS

In Vol. II.

COLOURED LITHOGRAPHS.

The Petrified Forest . . . . *Frontispiece*
Zuñi . . . . *To face page* 98
San Francisco Mountains (Extinct Volcanoes) . . „ 156
Mohave Indians (Valley of the Colorado of the West) . „ 250
Native Dwelling on the Rio Colorado of the West . „ 262

WOODCUTS.

Indian Rock Inscriptions, and Ground Plan of Ruins on the Moro „ 52
Rock Inscriptions near the Fish Spring . . . . „ 72
Fragments of Pottery from the Ruins on Inscription Rock „ 75
Earthenware Household Utensils of the Pueblo-Indians (Zuñi) „ 88
Place of Sacrifice of the Zuñi Indians . . . . „ 96
Cereus giganteus . . . . „ 219
Indian Drawings . . . . „ 233
Ditto . . . . „ 234
Ditto . . . . „ 235
The Colorado River . . . . . . „ 239
Sequoia gigantea (Wellingtonia gigantea) . . . „ 364

JOURNEY

FROM

THE MISSISSIPPI TO THE PACIFIC.

CHAPTER I.

STAY AT ALBUQUERQUE. — INSTRUCTIONS FROM THE WAR-OFFICE OF WASHINGTON. — LIFE IN ALBUQUERQUE. — THE APACHE AND NAVAHOE INDIANS.—THE RIO GRANDE DEL NORTE AND ITS VALLEY. — FANDANGOS IN ALBUQUERQUE.

At last, then, the Expedition found itself at the much-talked-of Albuquerque on the Rio Grande, and we had during the journey formed so many anticipations connected with this western city, and promised ourselves so much pleasure from our stay in it, that we could think of little else on our first arrival than recreation, and the gratification of our curiosity. To the inhabitants of Albuquerque our visit, and still more the purpose that had brought us there, seemed to be extremely agreeable; they gave us a most friendly reception, and if the attentions shown us did proceed in many cases from some other motive than pure philanthropy, that consideration did not trouble us much. We made the most of our opportunities in the enjoyment of the present moment, so that we might be able, after the lapse of some weeks, to carry away with us at least a store of agreeable recollections.

Our first visit was to the officers of the United States dragoons, who welcomed us with true American hospitality; and gave us many a pleasant hour in their barracks. In the Far West, acquaintances are very quickly made; questions, explanations, stories of adventures, are interchanged, as if they would never come to an end, and the time passes in lively conversation as rapidly as could be desired.

We obtained on the very first day, through the obliging communicativeness of these officers, a considerable acquaintance with the town, — its advantages and defects, its inhabitants of both sexes, the names of the streets, which certainly were not very numerous, as well as of the still fewer persons of distinction, and above all, of every handsome señorita. Also, we were indebted to these gentlemen for the interesting intelligence of where the best wine was to be had, and where we might resort to of an evening to recruit ourselves, after the toils of the writing and drawing table, with the pleasanter exercise of the fandango. Amidst these delights, we thought little either of the journey we had made, or of the one that still lay before us; but we felt that this state of things could not last, if we meant to obey the instructions received from the government at Washington, by Lieutenant Whipple; and which were of course equally binding on every member of the Expedition. They were to the following effect: —

"War Department, Washington,
"May 14, 1853.

"In the 10th and 12th clauses of the Military Appropriation Act (passed March 3rd, 1853), it is provided that such investigations and surveys shall be made as shall be considered necessary, to determine the most suitable and advantageous direction for a line of railway from the river Mississippi to the Pacific Ocean ; and the War Department accordingly orders, that investigations and surveys shall be undertaken, to ascertain the possibility of executing this plan along the line of territory crossed by the 35th degree north latitude.

"The following instructions with reference to it are to be distributed to the authorities of the various branches of the public service.

"1. First Lieutenant A. W. Whipple will take the command of this exploring and surveying party. Brevet Second Lieutenant J. C. Ives, of the corps of Engineers, with the civil officers considered necessary by the War Secretary, will serve under him.

"2. The Adjutant-General will appoint the necessary escort of men, the means of transport for provisions ; and other needful equipments will be furnished by the Quartermaster-General. Second Lieutenant D. S. Stanley, of the 2nd Regiment Dragoons, will act as Quartermaster and Commissary of the Expedition.

"3. The officers serving as quartermasters and commissaries, at the various military stations on the prescribed line, will, on due requisition, furnish to the utmost of their ability the stores required for the Expedition, which are to be paid for out of the sum appointed for the expenses of the Expedition.

"4. Medicines are to be furnished by the surgeon-general.

"5. Arms and munitions of war are to be furnished by the Ordnance Department.

"6. As soon as the party is organised, the necessary equipments and instruments will be procured, and the said investigations and surveys will then be begun with all possible celerity.

"The principal members of the Expedition will assemble at some suitable spot on the river Mississippi, and thence proceed by the most favourable route in a western direction to the Rio Grande. From what point of the Mississippi the projected railroad is to commence will depend on the previous surveys, and on information obtained from other sources ; as also whether lines of railroad west of the Mississippi, projected by other states or companies, might be advantageously employed.

"The surveys will proceed along the Upper Canadian river, cross the river Pecos, pass round the range of mountains east of the Rio del Norte, and turn into the valley of that river at some suitable spot near Albuquerque.

"Thence towards the west extensive surveys must be made to ascertain the most suitable pass for a railroad through the Sierra Madre, and the mountains west of the Lands of the Zuñis, and Moquis, to the river Colorado. During these surveys Fort Defiance will serve as a depôt for stores, and the means of transport for the remainder of the journey can also be obtained from thence. It will be advisable to seek from Walker's Pass, for the best and most suitable route to the Pacific Ocean, which will probably lead to San Pedro, to the port of Los Angelos or San Diego.

"Lieutenant Whipple will immediately send an officer with a small party, to proceed without loss of time to Albuquerque in New Mexico, to make this place a chief station for the astronomical observations of the Expedition, and to hasten the necessary preparations for the survey in the mountain regions of New Mexico, before the commencement of winter. In those parts of the route where there appears to be no obstacle to the construction of a railroad, a superficial reconnaissance will suffice; but this must be accompanied by numerous astronomical observations of geographical points. Greater exactness will be necessary in the mountain passes, in order to ascertain the elevations and depressions of which advantage might be taken, as well as more nearly to estimate the cost of a line of railroad.

"The greatest attention will be paid to those branches of science upon which, more or less, depends the solution of the question concerning the construction of the projected railroad: among other points, to the geological examination of the rocks and the soil, and the means by which water may best be procured in arid deserts,—whether by Artesian wells, or in tanks; also to the productions of the country—animal, mineral, and vegetable,—to the population and its resources, and to the timber and other materials for railroads to be found on the route. The distribution, character, customs, traditions, and languages of the Indian tribes will be studied, meteorological and magnetic observations made, the hygrometric and electric phenomena of the atmosphere attended to, and all means taken to obtain a thorough knowledge of the character of the country through which the Expedition has to pass.

"On or before the first Monday of February next, Lieutenant Whipple will deliver a report of the results of his survey; and after the completion of the labours of the Expedition in the field, the company will be dismissed in California, and the soldiers no longer required will be placed under the orders of the commanding officer of the department. Lieutenant Whipple, with the officers and assistants indispensable to him, will then prepare for Congress a full account of the Expedition.

"The sum of 40,000 dollars has been entrusted to Lieut. Whipple, to meet the expenses of the Expedition.

"Jefferson Davis,
Secretary-at-War.

"To Lieut. A. W. Whipple,
Topographical corps, Washington."

With the arrival of our Expedition at Albuquerque, the easier half of our task was completed, without our having been obliged to depart in any essential point from the above instructions. Lieutenant Ives only — who, according to the plan of the Secretary-at-War, was to make the journey from the coast of Texas — had not yet arrived. Our commanding officer, however, immediately set about the arrangements for the astronomical observations, as well as the necessary preparations for our further journey. It was found that a longer stay in Albuquerque than we had expected would be necessary, and the delay proved of great benefit to our saddle and draught cattle, as they had suffered much in the latter part of the journey. The camp was pitched with more care than usual, and every one endeavoured to settle himself as conveniently, and be as much at home as possible, in his tent. The ground, however, was only two or three feet above the level of the Rio Grande, and was constantly wet and cold, and we were obliged to have recourse to a great variety of methods to prevent coming into contact with it during our sleep.

A few days sufficed for our whole company to get into quite a regular way of life, and every member betook himself to his respective employment as steadily as if he had been working in an office at Washington. Maps and profiles of the country examined by us were drawn and worked out, and the astronomical and meteorological observations entered in tabular form in new books; the botanist found ample occupation in his herbarium, and Mr. Marcou in his mineralogical and geological collections. To our other employments was added that of packing all these things well and securely, so that they could be sent from Albuquerque by a trading caravan to the United States; and this was done partly to relieve ourselves of any unnecessary luggage, but also to place in safety valuable articles and papers, the loss of which would be irreparable, as we could not foresee what risks might attend our subsequent journey, and whether we might succeed in reaching the coast of the Pacific with more than our bare lives. I was chiefly anxious about the careful packing of my rich collection of reptiles, and I employed the remainder of my time in making duplicates of my sketches, so as, in case of disaster, to avoid a total loss. Dr. Abadie, surgeon of the garrison of Albuquerque, had in the kindest manner assigned to me a room in his Mexican house, where I could sit at my drawing the whole day, liable to no other interruption than the occasional very agreeable one of a visit from Mrs. Abadie, a most amiable American lady, and her three rosy checked boys, for whom I had sometimes to explain my drawings, or make a new one. These things, of course, only made my stay under their hospitable roof so much the more agreeable, and I never felt this more than when in the evening I had to leave their charming domestic circle, to return to the rude life of the camp.

The engineers had also taken small rooms for their work in the town, where they passed the day, and our camp was only a few hundred yards distant from the town, so that we could easily return to it for our meals, and then go back to our work; but it was not entirely depopulated during the day, for Lieutenant Whipple was usually to be found there with his secretary, busied with accounts, correspondence, and requisitions; and Lieutenant Stanley was frequently engaged there breaking in new mules that he had bought, and adding them to the herd, for our further journey was to be made with a considerable increase of strength. Smiths and cartwrights too were heard hammering away at damaged waggons and the hoofs of mules, and a few sentinels were in the camp to keep watch over articles lying about.

The evenings were passed by most of our party in the houses of public entertainment, or in the hospitable abodes of the officers; and when the church bell summoned us to the fandango, most of the party might be seen streaming towards the spacious hall where smiling and dance-loving Mexican fair ones were awaiting us. Thus every hour was occupied either with work or play; days and weeks flew by, and every one began to feel himself quite at home; but I believe, nevertheless, there was not a single member of the Expedition who was not quite willing that this kind of life should come to an end.

Very few towns in New Mexico have a picturesque appearance. They are generally built in broad valleys, bounded at a distance by naked rocks; the houses are one-storied, partly concealed indeed by trees, but these, with the exception of a few alamos*, are the only trees to be seen. Albuquerque lies about five hundred yards from the Rio Grande, and has a rather ruinous aspect; the only building at all conspicuous is the church, which, with its two towers, might lead to the expectation of a more important settlement. Church, houses, barracks, and the stables of the garrison are all built of the same material, namely *adobes*, or bricks dried in the air in the usual Mexican fashion. They are made of the earth of the valley, mixed with straw and small stones to give them greater firmness. Both inner and outer walls are from two to three feet thick, and, except the doors, very sparingly provided with openings for light and air. These habitations are all built on the flat ground, or at most only slightly raised on a bed of clay, and the interior is as rudely simple as possible, though not altogether without convenience; and among the more opulent inhabitants apartments may be seen, to which by means of whitewash a neat and pleasing appearance has been given. Boarded floors are an unknown luxury, and both rich and poor content themselves with hard stamped clay, which only the wealthy cover with straw mats and carpets.

Albuquerque has increased both in importance and extent, since it has boasted a military garrison; but it is still by no means on a level with Santa Fé or El Paso, which have been for a long time the chief commercial places of these regions. It is a kind of offshoot from Santa Fé, and the number of its inhabitants does not now exceed 700 or 800, most of whom are engaged in trade or cattle breeding, though there are among them many most worthless fellows; gamblers, who are always on the watch to relieve the soldiers of their pay, as soon as they get it; and robbers who not only never miss an opportunity of making off with a horse or a mule, but have not the least objection to commit a murder, to secure their booty. These villains are a dreadful plague to the peaceable part of the population; but since the military garrison has been established here, the town is no longer so much troubled by the attacks of wandering troops of the Apache and Navahoe Indians, though hordes of them do still roam about in the neighbourhood, and lie in wait to steal cattle or make prisoners. It is by no means an uncommon case for a horde of these savages to be under the guidance of a Mexican rascal, who takes his share of the plunder.

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* The Spanish name of the cottonwood tree (*Populus angulata*).

The nation of Apache Indians is one of the greatest and most widely diffused of New Mexico, and comprehends numerous tribes scarcely known, even by name. According to the accounts of settlers in the country, as well as of travellers, the Apache territory extends from 103° to 114° longitude west from Greenwich, and from 30° to 38° north latitude; but they are found roaming far beyond these limits, though they have no villages beyond them, and are carried by their love of plunder even to the States of Sonora and Chihuahua.

It is possible that in some parts of this wide territory Indians may be found who do not belong to the Apache race; but this can only be ascertained by a comparison of their languages. The tribe of the Navahoe or Navajoe Indians, by far the most numerous westward of the Rocky Mountains, also belongs to this family, and it is more than probable that kindred tribes may be found much further north.*

A certain touch of the chivalrous in the character of the American Indian east of the mountains, is entirely wanting among these tribes: even their exterior is far less prepossessing, and there are very few fine forms among them. Their food consists, in a great measure, of the flesh of the horses and mules with which they provide themselves from the Mexican settlements ; but the Navahoes are almost the only Indians of New Mexico who keep large flocks of sheep, and lead with them a nomadic life. They know, too, how to spin the wool, and weave from it very close blankets of various colours, of a quality seldom surpassed by those manufactured in the civilised world.

These parti-coloured blankets, in which the Navahoes envelope themselves, have a peculiar and rather agreeable effect, when a troop of them are seen together. Their costume in other respects resembles that of other tribes, — unless indeed, of such as wear no costume at all. A cotton shirt is considered a garment of rather superfluous elegance ; but the Navahoes devote much care to the manufacture of their deer-skin *chaussure*, being very anxious to have strong soles, turning up into a broad peak at the toes, on account of the *cacti* and other thorny plants that occupy large tracts of those regions, and in which they could not take a single step without this precaution. They wear on their heads a helmet-shaped leather cap, usually decorated with a gay bunch of eagle, vulture or turkey feathers. Besides bows and arrows, they carry a very long lance, in the management of which they are extremely skilful, and when thus armed, and mounted on their swift horses, are antagonists not to be despised.

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* See Bartlett's Personal Narrative, vol. i. p. 326. In an essay read before the Ethnological Society, by my friend Professor Wm. W. Turner, he has shown that a close analogy exists between the languages of the Apaches and the Athapascans, a tribe on the Polar Sea.

The most striking contrast to these robber races, against whom the New Mexicans have to be constantly on their guard, is seen in the Pueblo or village Indians, whose settlements lie on the Rio Grande, and in the fertile valleys of its tributaries. They are the best part of the population of New Mexico, living on friendly terms with all their neighbours, and diligently pursuing their avocations of cattle breeding and agriculture.

In observing the patriarchal customs and manners of these people, and comparing their terraced houses with the ruins of the Casas Grandes on the Gila, and in Chihuahua, the probability of their being descendants of the ancient Aztecs involuntarily suggests itself; but how far such a conjecture may be depended on, and how nearly it approaches the truth, can only be determined by making these Indians the objects of close study, and following from north to south the traces that the Aztecs have left behind them, in their great migration. These Indian tribes, — generally, though incorrectly, called copper-coloured, for, unlike the nations living further to the north, they are of a brownish-yellow complexion, — constitute, with the descendants of the Spaniards, the present inhabitants of New Mexico.

The valley of the Rio Grande del Norte is closely cultivated in many parts from the mouth up as far as Taos, and among the population of this district the Spanish physiognomy is so mingled with the Indian, that the closest examination can hardly discover the pure Andalusian blood. It seems, however, that from generation to generation, the Indian sloth has gained ground on the old Spanish energy, and prevented either colonisation or civilisation from advancing beyond a certain point; but the recent constant intercourse with the Americans, and their example, does nevertheless appear to be animating the people of New Mexico to greater exertions. And yet long before the first settlers had landed in New England, or any colonies been planted in Virginia, Christianity had found its way into the heart of the American continent, and was no longer strange, even to the Indians of New Mexico; the steppes where the shaggy bison grazes, had been visited by Europeans, and the foreign intruders had made their way east and west, through the narrow passes of the Rocky Mountains: the Gila, and the Colorado, which as unknown rivers have lately awakened so much interest, had been several times crossed, and the bold Spaniards had already established on the Pacific Ocean the missions or colonies which were the long enduring memorials of their former greatness.

In the regions south of the 36° north latitude—to which the attention of the government of the United States has been specially directed, and to which many well-equipped expeditions have been sent — travellers frequently come upon the traces of an earlier European civilisation, which could only have existed for a short time, and must have subsequently passed into oblivion, but the rediscovery of which now attracts much attention.

At the sight of these vestiges, a comparison between the colonisation of the Spaniards on the one hand, and of the Dutch and English on the other, involuntarily suggests itself. In the first, missionaries advanced bearing the cross, followed by the standards of their country, and surrounded by haughty warriors; the natives were baptized, missions established at suitable spots, and the population compelled to labour for the benefit of their new masters, and the maintenance of the Church. Up to this point, these undertakings appeared to flourish, but centuries passed without any perceptible progress, or any increase of the Christian community; on the contrary, many descendants of the first Christians are now dragging on a wretched existence in remote districts of New Mexico, the sport of the neighbouring tribes of Indians, who have remained deaf to the Christian doctrines.

The Dutch and Anglo-Saxon settlers, on the coasts of the Atlantic, came with the plough and the rifle; they cleared forests, broke up the ground, cast seed into it, and the thousandfold produce that rewarded their industry soon enabled them to build churches under the shadow of the mighty trees, beneath which their first prayer meetings were held. On the path thus broken, civilisation advanced towards the west, and the axe and the rifle were followed by trade, industry, art, science, and religion.

The inexhaustible wealth of nature which rendered, and still renders, the colonisation of the North American continent so comparatively easy, is not in so high a degree characteristic of New Mexico, and in some places there are even deficiencies, but the fruitful valleys of the Rio Grande and its tributaries, as well as its mountains, rich in iron, coal, and gold, are profuse enough in their gifts, not only to maintain, but to enrich whole nations, and carry them to the highest point of civilisation. No other advantage, however, can be obtained from the Rio Grande than that of irrigation, for its depth of water bears no sort of proportion to its breadth, and there can be no idea of ever rendering it navigable. Its breadth, from the neighbourhood of Santo Domingo to Santa Fé—therefore, throughout its entire upper course — varies from 400 to 800 feet, whilst the depth is on an average scarcely as much as two or three; though here and there deeper spots are to be found. Even near the Gulf of Mexico, the Rio Grande increases very little in depth, and from its mouth to its source, it has not been found necessary to unite its shores by a single bridge. Waggons can drive through its shallow bed at almost every part, but it is necessary nevertheless to be careful in choosing the fording-place, to avoid having your wheels sunk in the quicksand, from which it is often extremely difficult to extricate them, and this can indeed be in some cases only effected by taking the waggons to pieces, and dragging them out bit by bit. The water in this river is thick and sandy, except during the inundations from the melting of the snow in the Rocky Mountains.

These inundations mostly occur every summer, and when they do not, the bed of the Rio Grande becomes almost dry, for the amount of water furnished by its tributary springs is drawn away through ditches and canals *(acequias)* by the settlers and Pueblo Indians, for the irrigation of their fields. The advantages of a regular artificial irrigation over an irregular natural one, are lost if the rising of the river in the summer does not take place. In February and March, indeed, there is abundance of water to freshen and fertilise the fields, but if the supply is not kept up by contributions from the masses of snow in the mountains, it soon becomes insufficient, and the plants, which have shot up rapidly, wither away on the arid soil before the ears or seed-vessels have been formed. In such cases, the farmer not only sees his hopes of a harvest annihilated, but finds that his labours and expenses in clearing his canals have been in vain. Such an entire failure as this, however, is very rare, and in favourable years the produce is very abundant. It is calculated, that of the area of the valley of the Rio Grande, which varies from a quarter of a mile to four miles in breadth, one eighth cannot be cultivated from the deficiency of water; but thousands, nay, hundreds of thousands of settlers might find room and occupation in the remaining seven eighths of this thinly-peopled region. Maize, wheat, and of late even barley, have been successfully raised here, but the attempts to introduce the potatoe have never prospered, so that only very small fields of this root are to be seen; rather a remarkable circumstance, as the American continent is its native home. Onions, pumpkins, and melons thrive remarkably well in New Mexico, and attain an enormous size, and magnificent fruit is grown in the gardens. To the vine particular attention is paid, and at El Paso we saw vineyards containing the most exuberant crops of the grape, from which the well-known El Paso wine is made. The Spaniards are said to have introduced this grape; but that it prospers so well tends to contradict the common opinion, founded on recent experience, that the European grape never thrives so well as the native American when improved.

The people of New Mexico have a very simple method of cultivating their vines; they do not train them either round poles or hedges, but in the autumn cut them off close to the ground, so that new shoots strike out every spring. The more careful growers cover the vines during the winter with straw, to protect them from the dangerous night frosts, and at the beginning of spring they are placed under water, and kept so until the ground is sufficiently saturated for the moisture to last, in most cases, through the summer.

In July the first grapes begin to ripen, and the last are only cut towards the end of October. They are then thrown into large vessels, trodden out by men with naked feet, and afterwards pressed in sacks of raw ox-hide. By this rude method is produced the excellent El Paso wine, which has some resemblance to Madeira.

We had, during our stay in Albuquerque, a favourable opportunity of obtaining information concerning the province of New Mexico; for the Mexicans, with their accustomed politeness, readily communicated every particular concerning their country that we desired to become acquainted with.

The worst element of the population of Albuquerque consists of individuals of various foreign nations, who had been on their way to California, but, unluckily for the town, had been induced to stop here; and also of those who, as I have said, had been dismissed from passing caravans and expeditions as worthless.

Lieutenant Whipple had, immediately on our arrival, turned away several of our waggoners as useless and troublesome, and much too ill-disposed to belong to an

Expedition like ours. Two of these fellows established themselves the very next day as butchers, and when one of them was attacked by small-pox, a disease always prevalent here, the other profited by the opportunity to rob his sick comrade of all his money and go off in the night with it, as well as with one of our best mules. To my great vexation it was mine that had had the ill fortune to please him; at which I was certainly not surprised, for the animal was very swift and docile, extraordinarily quiet under fire, and during my stay at Albuquerque I had been feeding it on the very best food that could be procured, and carefully training it for the chase. The faithful animal had disappeared with the thief, and though the Alcalde of Albuquerque was immediately informed of the affair, people sent off in all directions in pursuit, and even a considerable sum offered for the capture of the robber, the animal was too good, and the villain too cunning, for any thing to be ever heard of either of them again. All our efforts to recover the stolen mule proved fruitless, and I was obliged to set about training another; but I had often afterwards occasion to mourn the loss of my former faithful companion.

As Albuquerque is a western frontier town, the stores of the traders exhibited a curious variety of all imaginable articles in ordinary use, &c. Clothes and medicines, dried fruits and iron goods, linen and pastry, brandy and prayer-books, coffee, hams, shoes, blankets, and hundreds of other articles were to be had in abundance for hard cash, literally hard cash, for paper money is not taken. We found, therefore, every facility for fitting up the gaps in our wardrobes or other possessions; and as we were, above all things, anxious to make at the numerous balls of Albuquerque a rather less ragamuffin appearance than we had done at Anton Chico, many a good dollar belonging to our party found its way into the shops, and was joyfully exchanged for an article of a tenth of its value, which happened to be wanted at the moment. When the evening bell of the old church began to sound, the best dancers of the company hastened, as I have said, with exemplary punctuality to perform their devotions to the fair and gaily-dressed Mexican ladies. We found that, though all the balls were public, the company consisted of two distinct classes; the one formed by the more cultivated inhabitants of Albuquerque, which was joined by the officers of the garrison and the members of our Expedition; the other of a wild throng of very rough fellows, who in their own circle might dance, shout, quarrel and swear to their hearts' content; and they had just as little desire to submit to the restraints of our more decorous society as we had to mingle in theirs. One of the most indefatigable visitors of the ball-room was the commandant, "Old Fitzwater," who, though his stiffened limbs could nohow be induced to permit his dancing himself, was all the more zealous in encouraging others to sedulous exertion, and he also contributed much to the amusement of the company by humorous tales of his youthful adventures. Even Dr. Bigelow, too, was actually tempted for a brief interval to forsake his beloved herbarium and take part in a fandango.

After we had enjoyed several of these pleasant evenings, it was unanimously resolved among us to invite the officers, citizens, and especially the lovely *citizenesses*, to as splendid a ball as we could manage to get up. For this purpose we hired the most spacious *locale* that was to be found in the town, and then sent out invitations to all the good folks of Albuquerque whom we could regard as at all educated and presentable. The next business was to collect all the good things in the way of meats and drinks that the country round could furnish; we even sent for them to Santa Fé, and in short exerted ourselves to furnish, regardless of expense or trouble, such a fête as Albuquerque had not often seen. There were oysters that had made a journey of a thousand miles in hermetically closed cases to do honour to our "solemnity," and champagne from the other side of the world, and all in such profusion as would have sufficed for a still more numerous party. Among our guests was General Garland, who happened to be then on a journey of inspection to the various military stations, and who, with a squadron of dragoons, had pitched his camp near Albuquerque. He mingled in the dance with as much frolicksome activity as the youngest lieutenant, and showed very clearly that his long journeyings through the steppes had not tended to render him a less lively and agreeable companion. Our ladies were all natives of the country, who looked very charming in their white dresses and simple but tasteful ornaments.

In order not to be disturbed by any objectionable individuals of the population, Lieutenant Johns had taken the precaution to place several sentinels at the door, with the strictest orders to allow no one but the invited guests to pass; and with this precaution we gave ourselves up wholly to the enjoyment of the hour, and the day had dawned before the company left our "festive halls," and sought, tired enough, their respective beds.

Often enough afterwards, as we lay round the flickering camp fire in the high snow regions of the San Francisco Mountains, or toiled through the lonely arid wastes to the west of the Colorado, we thought of that pleasant night of revelry in Albuquerque: and every weary wayfarer brightened up a little as he called it to mind, and told of some remarkable anecdote connected with it.

These gaieties were, however, not allowed to retard our preparations for departure. The people were kept constantly to their practice in the use of fire-arms; stores of warm clothing were laid in for the cold winter months, and fresh men selected and engaged from the Mexican population, to assist in various labours.

CHAP. II.

GUIDES.—LEROUX.—THE THREE OLDEST BACKWOODSMEN.—PASSAGES IN THEIR LIVES.—KIT CARSON.—ARRIVAL OF LIEUTENANT IVES.—DEPARTURE FROM ALBUQUERQUE.—JOURNEY UP THE RIO GRANDE.—THE INDIAN TOWN OF ISLETA AND ITS INHABITANTS.

A GUIDE through tracts of country hitherto untrodden by any but Indians or trappers, is an inestimable advantage to travellers, but one often not to be obtained; for among the whites there are very few sufficiently acquainted with those regions to undertake such a responsibility, and the Indians are generally too little familiar with the language and customs of the whites to be employed for such a purpose. On the sagacity and experience of the guide, however, will often depend, not only the entire result of an expedition, but the lives of its members, and it is therefore always a great object for a party about to enter on those pathless wildernesses, to secure the services of one on whom they can rely.

Lieutenant Whipple began to inquire for such an one, immediately after our arrival; but his search was for a long time fruitless.

Many people could tell wonderful stories about the wild Indian hordes, and the sands near the Colorado that contained gold and precious stones; they could even show little bags containing not only fine garnets, but rubies and emeralds, obtained from these marvellous sands; and there were also mythic tales in circulation, concerning the terrors of those inpenetrable wildernesses, which probably originated with the cunning Navahoe Indians, and were invented with the view of deterring the whites from entering their country. The precious stones had been brought to be exchanged for other more useful articles.

The only man who appeared to possess any well-founded information was a certain Aubrey, who had been with flocks of sheep to California, and had several times come into serious collision with the Club Indians. His account was not very encouraging for our journey; but at all events it was such as gave reason to anticipate interesting experiences and exciting adventures.

Among other wild fables that gained currency, was that of a tribe of natives who, though they were in possession of fire-arms, were in the habit, in default of lead, of shooting with golden bullets; and in confirmation of this credible story, some small golden balls about the size of deer-shot were shown to us. They appeared, however, to be made of gold dust, such as is obtained in California, amalgamated with quicksilver, and formed under pressure. This plan could only be adopted by professional gold-diggers, and if the specimens shown to us really came from the Indians, they must first have been stolen from the diggers.

The more improbable a story was, however, the more firmly it was believed by our labourers and muleteers, and many of them were already rejoicing in the thought of getting hold of one of these well-filled Indian shot-pouches.

About the time we arrived in Albuquerque, there came also a man of the name of Leroux, a Canadian, who had grown grey in journeyings over mountains and deserts, and was now returning to his present abode in the town of Taos, situated a few days' journey northward of Santa Fé. He had accompanied Captain Gunnison, who commanded the Expedition following the 38th parallel to the Rocky Mountains, and had then determined to pass the winter at home; but the great reputation Leroux had gained as a trapper, and still more as a guide, made it appear highly desirable to engage him for our Expedition, and Lieutenant Whipple accordingly wrote to him to make a highly advantageous offer, if he would accompany us to California. Instead of sending a reply, Leroux came himself, to make further inquiries into our plans. One part of the country through which we proposed to pass he was certainly acquainted with, for he had two years before accompanied the Expedition to the Colorado commanded by Captain Sitgreaves, and gone down the river to Gila; but as we could not depart very widely from the prescribed line of the 35° north latitude, and it could not be the intention of the government of the United States to have the same route explored twice, Leroux would probably have to pass through some regions unknown to him.

Lieutenant Whipple, however, did not the less urge his acceptance of the engagement, knowing that the old trapper's experience would soon enable him to find his way, even through hitherto unknown regions; and that in any meetings with the natives he would make himself understood more easily than we should. The bargain was at length concluded, and Leroux agreed to accompany the Expedition to California, for the consideration of 2400 dollars; and the confidence which he inspired,—a confidence that had been earned by thirty years' toil in primeval wildernesses — made us all rejoice not a little at having secured his services.

The three oldest backwoodsmen in existence are — this man, and two others named Fitzpatrick and Kit Carson. Fitzpatrick has spent half a century in the steppes and wildernesses of North America, and all three are grey-headed old fellows, whom one cannot avoid looking at with a certain feeling of respect and admiration, when one remembers how often during their long wanderings death in many forms has threatened them; by hunger and thirst, by wounds and disease, by the scalping knife of the red skin, or the fangs of wild beasts, or a thousand perils in which they have seen many of their comrades fall and perish by their side, and have yet dauntlessly persevered in a mode of life that has kept them vigorous, and one may say young in mind and body, though they have reached an advanced age.

As I had myself, through a singular concurrence of circumstances, for some time led the life of a trapper, and held frequent intercourse with the fur hunters of the west, I felt great interest in adventures of this kind, and was always ready to listen to their stories, of which I may here take the opportunity of mentioning one or two.

Many years ago, when the white men who had seen the Rocky Mountains might still have been counted, and only very few of the prairie Indians knew the use of fire-arms, Fitzpatrick had one day got separated from his companions, and was pursuing his game alone in the wilderness. As ill-luck would have it, he was seen by a war party of Indians, who immediately prepared to give chase. There was not the smallest chance of escape for him, but the young hunter made a feint of running away, in order, if possible, to gain time. He happened to know that these savages, who as yet were little acquainted with the use of fire-arms, had several times, when they had taken white hunters prisoners, put the muzzle of their rifles close to their breasts, and fired them by way of experiment, to see what would come of it. He therefore thought it prudent to extract the bullet from his, and then continued his flight. The Indians followed, and very soon overtook him, and then they disarmed him, and tied him to a tree. One of the warriors, who, it appeared, understood how to pull a trigger, then seized the rifle, placed himself a few paces in front of the owner of it, took aim at his breast and fired; but when the Indians looked eagerly through the smoke towards Fitzpatrick, they saw that he was standing safe and sound in his place, and he quietly took out of his pocket the bullet he had previously placed there, and tossed it to his enemies, who were all amazement. They declared he had arrested the bullet in its flight, was invulnerable, and a wonderful conjuror, and what was more, that some great misfortune would most likely befall the tribe, if they did not set him free immediately, and they therefore cut his bonds, and made off as fast as possible, leaving Fitzpatrick free to go where he pleased. The three old backwoodsmen had hundreds of such anecdotes to relate, but they never talked of them in a boastful style, but told quite simply and truly, even the most terrible adventures, merely as interesting reminiscences of bygone times.

The renowned Kit Carson had stood, as faithful friend and companion, by the side of Colonel Frémont in his laborious journeys and valuable investigations in the Far West. He is the son of a Kentucky man, who also in his time distinguished himself as a hunter, and in the wars with the Indians gained a considerable reputation. Young Kit or Christopher Carson, when a boy of fifteen, found his way to Santa Fé, and through New Mexico to the silver and copper mines of Chihuahua, joining a trading caravan, in which he afterwards engaged himself as waggon driver. At seventeen he undertook his first excursion as a trapper, proceeding with a party of fur hunters up the Rio Colorado of the west; and the success that attended his first adventure redoubled his ardour for this kind of life, in spite of its many perils and hardships. He returned to Taos, and then accompanied another trapper party to the sources of the Arkansas, and thence southward to the Rocky Mountains to the rise of the Missouri and the Columbia. In these regions he remained eight years, and gained the character of an excellent shot, a skilful trapper, and a most trustworthy guide. His courage, sagacity, and perseverance became so well known, that in all attacks on the Indians, and other dangerous undertakings, his services were always in requisition. He was once, for instance, engaged to follow with twelve companions the trail of a band of sixty Crow Indians, who had stolen some of the trappers' horses, and he overtook them, creeping up, unperceived, with his comrades to where the Indians had halted at an abandoned fort. The horses were tied up only ten feet from the fort, but the determined little party cut the thongs, attacked the Indians, and returned in triumph with the recovered booty, and moreover, with a Crow scalp, which an Indian who accompanied Carson had helped himself to. In another skirmish with the savages, Carson received a bullet in his left shoulder, which shattered the bone; but that was the only serious accident he ever met with, though so continually in danger. As the trappers pass their lives in a country where there are no laws but such as people make for themselves, the most peaceable man cannot always keep out of quarrels which, not unfrequently, come to a bloody termination, and Carson once had a difference of this kind with a Frenchman. In the course of some squabble that had arisen, as such things mostly do, about a mere trifle, the Frenchman declared that he had horsewhipped many an American, and that, in fact, they were good for nothing but to be horsewhipped. Carson hearing his nationality thus insulted, answered, as he himself was but a poor specimen of an American, the Frenchman had better get his whip and try upon him. A few violent words followed, and then each seized his weapons, mounted his horse, and prepared to put an end to the dispute by a peculiar kind of duel. At the moment agreed upon they rode furiously at one another, the Frenchman armed with a rifle, while Carson had only a pistol; but he was too quick for his antagonist, and when the horses' heads nearly touched, delivered his fire, and sent a bullet into the other's brains before he had time to take aim. Another moment, and he would infallibly have fallen by the better weapon of the Frenchman.

Carson became acquainted with Colonel Frémont by mere accident on a steamer, when the other was about to undertake his first expedition to California, and immediately joined the young officer, and accompanied him on all his subsequent enterprises; and in the midst of hardship and danger a friendship grew up between the men which still exists in all its original warmth. In the year 1847, when Carson visited Washington, the President of the United States appointed him lieutenant in the same regiment of Chasseurs in which Frémont was serving as lieutenant-colonel.

As the time of our departure could not yet be exactly determined, Leroux returned to his home to make some preparations for the long journey, engaging to join us immediately on the first message we should send. As a second guide Lieutenant Whipple engaged a Mexican, who stated he had already visited the Colorado, and from another quarter we heard that this was true enough, and that he had been there to carry on a barter trade with the natives, and probably to take the opportunity of catching some young Indians to sell as slaves. The enterprise, however, had miscarried, and the Mexicans had to consider themselves well off to have returned with a whole skin, with the loss of all their trouble and expense; but as the experience and knowledge of the country he had gained on this expedition might nevertheless prove of some value to us, the worthy Don Antonio Survedro (as he was called by the Americans of our party), was engaged and undertook to go with us to California, for the sum of 1200 dollars, thus obtaining the first profit resulting to him from his rather discreditable expedition.

The arrival of Lieutenant Ives, Dr. Kennerly, and Mr. Hugh Campbell from Texas, in the fifth week of our stay at Albuquerque, put an end to the uneasiness we had begun to feel from their delay. The small party, though now happily they had reached us in safety, had had, with their few men and only two waggons, many difficulties to encounter on the way, partly arising from illness, and partly from the weakness of their party, which obliged them to regulate their movements by those of other more numerous caravans, under whose protection they might reach the Rio Grande in safety. We had now only a few last preparations to make, and then there was nothing to hinder our immediate departure.

We should cross the Rio Grande with a considerable increase of strength, — for the *personnel* of our Expedition, which before numbered only seventy persons, now amounted to 114, including an addition to our military escort of twenty-five men, who were to join us from Fort Defiance on the western declivity of the Rocky Mountains: the meeting to take place at Zuñi. The number of our mules had been doubled, and a large flock of sheep was to be taken with us for the maintenance of the party. Some oxen and cows had also been purchased for this purpose, but they were to be slaughtered almost at the commencement of the journey, the sheep being spared to a future time, partly because the latter find their subsistence more easily in inhospitable deserts, and also because horned cattle are apt to fall lame, when they have to walk long over sharp lava and stones.

At last then the day of our departure could be fixed; our papers and collections had been entrusted to a merchant for delivery in Washington, and provisions, tools, instruments, and other effects had all found a place in some of the waggons, or on the backs of the beasts of burden. Leroux had joined us the moment the signal had been given, and our tents could now be struck and the Expedition commence its march.

According to the arrangement of Lieut. Whipple, our company was to be again divided, for Lieut. Ives, with two astronomers, Dr. Kennerly and myself, was to leave a day before the rest, and move along the western shore of the Rio Grande to the Indian town of Isleta, a distance of twenty miles. After the position of this place had been astronomically determined, and at the same time investigations made to ascertain how far the two shores of the Rio Grande at this part might be adapted to the construction of a bridge, our little division was to leave Isleta, and proceed in a straight line to the west. Some miles from an Indian town called Laguna, we were to turn into a road that leads direct from Albuquerque to Laguna, there encamp, and wait for the main body, which would leave Albuquerque a day later, but travel by a shorter route.

We took a kind and cordial leave of our friends in Albuquerque, bid our comrades good bye for three days, and crossed the Rio Grande on the 8th of November, 1853, pitching our tents on the western bank, with the intention of renewing our march towards the north on the following morning. The beginning of it was not encouraging, for both our waggons remained sticking so fast in the bed of the river, that it was only after great labour, and breaking one of the axle-trees, that we succeeded in bringing them upon dry land. Fortunately the camp was still so near that smiths and wheelwrights could be sent to us from thence, and they repaired the damage in the course of the night. We soon forgot this first disaster, as we gathered round our blazing camp fire, a few yards from where the Rio Grande rolled along its turbid flood, and listened to the merry voices of our comrades sounding across the water, mingled with music, and the uproar of the everlasting fandango.

In the shadow of the Placer Mountains we could distinguish by its lights the town of Albuquerque, where we had passed such a gay careless time, and something like a feeling of melancholy stole over us at the thought of never seeing it again; though, on the whole, satisfaction at finding ourselves *en route* again, and advancing towards the goal of our endeavours, was decidedly uppermost.

On the 9th of November, at a very early hour, our little caravan was again in motion, and proceeding along a level tract in the valley of the Rio Grande. A few scattered settlements and farms lying near each other gave a little variety and animation to an otherwise rather desolate landscape. The autumn with its destructive night frosts had passed over the meadows, and left the vegetation of a colour scarcely to be distinguished from that of the down-like sand hills, which formed a sort of transition from the valley to the highland. Trees and shrubs were only to be seen in the gardens, where diligent hands had planted them; but dark streaks on the sides of the mountains, which rose in all directions, indicated the cedar woods that furnish the settlers with building materials and fuel. This not very attractive prospect was somewhat improved by a sky as clear as it almost always is in Mexico; but the weather was very cool, and the slanting beams of the sun afforded but little warmth.

We were all mounted on very good mules, and Dr. Kennerly and I thought we would make a little circuit on our own account; but we were soon obliged to give it up. In the valley we had had to contend with canals and ditches; but the heights were covered by a deep loose sand, that obstructed the progress of our animals, and compelled us to return to our companions on the road. Here we got on pretty well, and passed what were called the towns of Arisco, Pajarito, and Padillas, though they had certainly had no claim to be considered more than villages, meeting on our way persons of various ages, sex, and race, often strikingly contrasted in appearance. Now came prancing by on a fine horse, a showy-looking Mexican, in embroidered jacket, thickly studded with ornamental buttons, and wide, laced trowsers, taking care that his spurs and chains should clatter imposingly as he raised his hat in a stately style and gave us a *Buenos dies*. Then followed a quiet Pueblo Indian, trotting along on a modest little ass, and holding up his feet as he rode, that his toes might not come into unpleasant contact with stones, or the irregular surface of the road. Faces of the feminine sex peeped curiously at us as we passed from the gardens of the farms; but neither age, nor youth, beauty, nor ugliness, could be discerned through the mask of chalk or the blood of cattle, with which they had seen fit to bedaub themselves.

Whether the ladies of New Mexico have borrowed this custom from the Indians, or adopt it as a protection against the rays of the sun, or with the view of whitening complexions that nature has made somewhat dark, we could not learn; but the handsomest women are frightfully disfigured by it. The fair ladies themselves seemed conscious that their present appearance did not gain much by this attempt to improve their charms, for many of them at our approach hid their faces so completely in their veil-like wrappers (*rebosos*) that nothing of them could be seen but the flashing black eyes. Further on we met small caravans, with laden mules, journeying to Albuquerque, and Pueblo-Indians coming down from the mountains with clumsy two-wheeled carts, carrying loads of wood.

In the afternoon we came to Isleta, a town that in its style of building, as well as its situation, reminded us of Santo Domingo, except that some one-storied houses of Mexican settlers were interspersed among the two and three-storied dwellings of the Indians. As we approached the town, we saw numbers of the latter busily at work in their vineyards, and talking in loud cheerful voices as they cleared the ground of its seed-bearing weeds, whilst the lazy Mexicans were lounging before their doors smoking cigars. We stopped as we passed through the town to buy some fruit, and then pitched our camp on the north side of it, near the bank of the river, on some fields where the last remains of a fine harvest were still to be seen, and in whose loose, well-cultivated soil, we had great difficulty in fixing our tent pegs firmly enough to hold the canvas extended.

Scarcely had we completed the task, when we saw a crowd of Indian women hastening towards us from the town, bearing pitchers of milk, and baskets of fruit They offered us their wares in a very good-humoured manner, and we bought as much as we could use, and amused ourselves till the evening with these harmless people, who came thronging about us.

The night was pretty far advanced when the sound o drums and of a wild kind of singing reached our camp from the town, and awakened our curiosity. Th weather was cold, but very fine, and several of u set off for a walk in the direction whence the noise proceeded. The streets were empty and silent, and we met but a single Indian, whom we saw, when he had passed us a few yards, let fall a stone. It was evident that he had caught it up at our approach as the nearest defensive weapon at hand, and the circumstance indicated that even these peaceful Indians do not feel themselves quite secure even in their towns. Little as they possess that could, one would think, tempt the cupidity of Indian, much less of white robbers, they are occasionally exposed to the attacks of vagabonds and villains of this sort.

Guided on our way by the tones of the wild concert, we reached the house whence the music proceeded, and looking through a small window, or opening in the wall of the lower story, beheld a singular spectacle. By the light of some burning logs we could see a number of men sitting on the ground beating the Indian drum most vigorously, by way of accompaniment to a howling song, while a throng of women and girls were kneeling around, pounding maize, or grinding flour between two stones, and keeping time with their work to the music. We stood for a long time watching them, but the entrance, or rather the climbing, into the house was not allowed to us. We returned at a very late hour to the camp, but found Lieutenant Ives still engaged in astronomical observations, for which the transparent atmosphere of Mexico offers peculiar facilities.

On the following morning, two dragoons were sent to us from a neighbouring military station, to serve us as guides to the Zuñi road. Before resuming our march, however, we took a careful topographical survey of both banks of the stream, and then bid farewell for ever to the Rio Grande.

The little plain on which Isleta is situated presented an animated scene in the early morning hours, for almost the whole female population of the place might be seen coming with light steps down to the river, enveloped in their large veils or shawls, bearing on their heads large earthen vessels, which they filled with water for the day's consumption. The men, too, were all occupied, mostly with axes, or agricultural implements in their hands, whilst the children were frolicking about merrily among them.

We followed a road leading in a westerly direction towards the heights, a road that was well trodden; for ever since the foundation of the town of Isleta, the Indians have traversed it to fetch their supplies of wood, furnished by a cedar forest twelve miles off, which is still equal to the demand. The ground was continually rising, and the hill country had a barren and desolate appearance.

Dr. Kennerly, who was, like myself, collecting objects of natural history, was, from this time, almost my constant companion.

We had become acquainted in Washington; his frank upright character had inspired me with a warm regard for him, and we had rejoiced together, before the commencement of the journey, at the interesting nature of the employment we were to be engaged upon; though we had now been separated for a long time, having reached Albuquerque by different routes.

The first days of our travelling together afforded us but very trivial booty; serpents and other reptiles had withdrawn into their holes at the approach of the cold autumn nights, and no other form of animal life appeared to exist in the country. Only the wolf observed us mistrustfully from a distance, and flocks of geese and crows, on their way to the south, still gave some animation to the dead-looking landscape. Even the small birds that may be seen occasionally on the barren steppes had disappeared, and our rifles lay idly before us on our saddles. We had ridden forward in advance of the little troop, and were talking of all the journeys to the Far West that had been undertaken of late years, and of Colonel Frémont, the man who, with invincible energy, and amidst the most formidable privations and perils, first planted the banner of the United States on the highest summit of the Rocky Mountains; afterwards with unwearied perseverance explored the entirely unknown regions on both sides of that gigantic range, and performed what Alexander von Humboldt has several times mentioned as the most stupendous barometric levelling-work that was ever undertaken. Colonel Frémont was at this time engaged in an expedition, fitted out at his own expense, for an overland journey to California, in order that he might on this, his fifth journey, resume labours interrupted by misfortunes on a former occasion.

When in 1851 I myself crossed the Rocky Mountains by the same road by which Colonel Frémont had carried his first expedition in 1842, I could not but feel great admiration and respect for the intrepid explorer; but these feelings were certainly augmented, when I had on this same route become practically acquainted with the sufferings that a lonely wanderer in these snowy wildernesses often has to contend with.

Every opportunity of obtaining further particulars concerning him was therefore welcome to me, and I was much pleased to receive from Dr. Kennerly information that served me to connect fragmentary accounts of his life, that I had heard from Leroux and others; and which I will here put together with rather better order than I received them in.

CHAP. III.

COLONEL FRÉMONT AND HIS FIRST AND SECOND JOURNEY.—RIO SAN JOSÉ.—RUINS OF AN INDIAN TOWN.—PUEBLO LAGUNA.—COVERO.—STREAMS OF LAVA.—MOUNT TAYLOR.

COLONEL FRÉMONT * was born in the year 1813, and is of French extraction; but his father emigrated to America, and here married an American lady, a distant relative of General Washington. Like many young people slenderly endowed with the goods of fortune, Frémont has raised himself by his own exertions, and won his own position. He devoted himself in his early years chiefly to the study of mathematics, and in 1833 entered for the first time the service of the government of the United States, as teacher of mathematics on board the sloop of war "Natchez," and was afterwards appointed professor of that science on board the frigate "Independence." The career now opened to him did not, nevertheless, satisfy his wishes and inclinations, and he resolved to turn his acquirements to better account.

The formation of a new corps of engineers, under the command of Captain G. F. Williams (afterwards

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* For exact dates and some other particulars I have had recourse to a work published by Mr. John Bigelow at the time when Colonel Frémont was chosen by a large proportion of the American public as a candidate for the Presidency. It bears the title of "Memoir of the Life and Public Services of John Charles Frémont," and is dedicated to Alexander von Humboldt.

shot at the battle of Monterey), offered him the desired opportunity, and up to the year 1837 he was occupied with surveys for railroads. Possibly it was during this time that young Frémont received the first impressions of the grandeur of nature that have had so powerful an influence over his whole life, and urged him irresistibly to the wild regions of the west. In the year 1838 and 1839, he accompanied, in the capacity of chief assistant, Mr. Nicollet, who, under orders from the government, conducted two expeditions to the countries between the upper Mississippi and Missouri.

Mr. Nicollet, formerly *Astronome adjoint à l'Observatoire de Paris*, and of high repute for scientific knowledge and capability, had obtained such valuable results from his labours in the service of the American government, that Alexander von Humboldt declared his early death had deprived the sciences of one of their greatest ornaments. It is therefore probable that long continued intercourse with this gentleman, as well as with Mr. Hassler, exercised a lasting and beneficial influence on the scientific culture and development of the enthusiastic young officer. In the year 1841 he was sent out to explore the banks of the Monk river, and after the completion of this work, he returned in the same year to Washington, and there married the daughter of a Mr. Benton. He allowed himself, however, but a short period of repose, and in consideration of the experience he had acquired in the frontier countries of the Far West, he received orders to choose a fitting party to accompany him, and to travel through the prairies and explore a portion of the Rocky Mountains.

In 1842, when he had received his instructions, he went to the borders of the State of Missouri, in order to complete his preparations in one of the Fur Company's stations; and in the neighbourhood of St. Louis, the usual halting-place of trappers returning from the west, he selected twenty-one men, mostly creoles and Canadian *voyageurs*, who had already, when in the service of the Fur Company, become accustomed to the life of the wilderness. One German, Carl Preuss, was associated with him as assistant in his scientific labours, and the above-mentioned Kit Carson was engaged to act as guide to the expedition. With this party Frémont undertook to perform his appointed task; and with no other difficulties than such trivial ones as are inseparable from journeys of this kind, he and his party passed up the Platte river, and reached Fort Laramie, a trading post of the Fur Company at the foot of the Rocky Mountains, on the 12th of July of the same year. From that point the difficulties and obstacles were of a more serious kind. Rather alarming intelligence was received, that the Indians were engaged in active hostilities with the trappers, and, having lost eight of their number, had risen *en masse* to attack the whites.

Under these circumstances Frémont's people, even Kit Carson, did not think it advisable to come into contact with the savages without having previously endeavoured to have an understanding with them; but by earnest persuasion, and his own example, Frémont succeeded in inducing even the least brave of his party to accompany him, and made preparations for immediate departure. At the very moment when they were setting off, and taking leave of their friends in Fort Laramie, some newly-arrived chiefs made their way through the throng, and delivered to Frémont a letter from a fur trader, strongly urging him to give up all thoughts of a journey to the Rocky Mountains, until the return of a strong Indian party then out in pursuit of the whites. The chiefs themselves too declared, that even their own young warriors, who could know nothing of any good understanding of the heads of their tribe with Frémont's expedition, would certainly attack him, if they met him. Frémont, nevertheless, determined to lose no time, gave the signal for immediate departure, and soon found himself in the mountains. He did not meet with any Indians; but the party had a worse foe to encounter, namely, want of food. Great floods, and countless swarms of locusts, had so laid waste those regions, that not a blade of grass was left, and the buffaloes, on which they had to depend, had left them for better pastures. Some half-starved Sioux Indians, whom they met, advised them by all means to turn back; but Frémont's resolution remained immovable, and with respect to the scarcity of food, he calculated that, in the worst case, he and his men could subsist upon the mules. He performed completely the work he had undertaken, — the most difficult part of which was the ascent of Wind River Peak in the Rocky Mountains. The snow region commences at the height of 1800 feet above the base of the mountain, and thence to the summit rises a stupendous column of granite, to the height of 13,570 feet above the level of the sea. He and his companions had to climb many places where a single false step, or a slip in the snow, would inevitably have plunged them into the yawning abyss below; but he attained his object, waved the stars and stripes of the American banner from the topmost peak, and looked out far and wide over lakes and rivers in one direction, and in another to the mountains in which the Missouri and the Yellowstone take their rise. After the completion of his enterprise, Frémont returned home to lay its results before the government; but on the homeward journey, when he and a portion of his party made the passage of the Falls of the Platte river in a frail canoe, he nearly lost both the fruits of his labours and his life.

They had glided swiftly down in their light craft till they came to a place known as the Cañon, where the river shoots with fearful violence through a narrow part between high rocks, and then plunges down a succession of precipices. The daring boatmen had allowed the canoe to be swept on by the current, limiting their exertions to preventing its upsetting, and it had shot like an arrow over three of the falls, so that, satisfied with its capabilities, the crew believed they would be able to overcome still greater obstacles, and shoot deeper falls in safety. An expanse of broad and comparatively tranquil water was followed by another narrow rocky gate, which with its lofty overhanging cliffs resembled a tunnel. They steered into this cavern, and had scarcely entered it when they felt that there was no possibility of turning back. Frémont had taken the precaution to leave three of his people on the shore, holding a rope attached to the boat; but no sooner had the current seized it than their united strength was found insufficient to arrest its progress, and two of them let go the rope. The third, a true mountain hunter, rather than let go, suffered himself to be dragged down a rocky wall of twelve feet, and plunged head foremost into the torrent. He swam after the canoe through the tunnel, in which the raging waters were dashing themselves to foam on each side; but he managed, as did the canoe, to keep in the middle of the channel, and reached unhurt the tranquil water at the other side of the pass, owing his life solely to his expertness as a swimmer.

The men who had been left behind were now taken into the canoe, the most skilful steersman took the helm, and away they went again to battle with the roaring flood, that, thundering from one descent to another, carried them on at its mercy. The rocks seemed to fly past them, and the wild hunters, with a feeling of exultation at the conquest of one difficulty after another, had set up a tumultuous song, when the rushing river, as if enraged at their indifference, seized their boat, and dashing it against a sunken rock at the foot of a fall, upset it and its whole cargo; and left men and goods swimming about in the foaming whirlpool. Three of the men, however, could not swim, and were only with difficulty rescued by their companions; and Colonel Frémont mentions an example of the wonderful coolness of these trappers in moments of danger, as well as of their readiness to peril their lives for each other. A man of the name of Descoteaux was just on the point of drowning, when another, named Lambert, seized him by the hair of the head, and with this additional burden continued his struggle with the waters.

"Lâche pas, cher frère!" cried Descoteaux, in a gurgling choking voice, and taking care to place himself so as to avoid obstructing the movements of his companion.

"Crains pas," was the reply; "je m'en vais mourir avant que te lâcher," and the brave fellow dragged his friend to the shore.

There were no lives lost on the occasion of this disaster, and Frémont even succeeded in recovering the boat and his most important books and papers; but many valuable articles were gone irrecoverably. The journey was, however, completed without further accident, and on the 29th of October of the same year, he laid before the government the report of the expedition.

The results of Frémont's labours were considered so satisfactory at Washington, and were so unexpected, that he immediately received orders to organise a new expedition with as little delay as possible, and to make his way to the west until he should meet, on the Columbia River, with Captain Wilkes, who had been commissioned to proceed from the coast of the Pacific.

With a party of thirty-nine men, amongst whom were Fitzpatrick, Kit Carson, Carl Preuss, and several others who had accompanied him on his first expedition, Frémont again set out on the 3rd of May, 1843, to proceed up the Kansas River to the sources of the Arkansas, and thence seek for a pass through the Rocky Mountains. The chief purpose of the expedition was to find a good road to Oregon and California; but at the same time to obtain exact information concerning the rivers touched upon. It was upon this journey that Frémont discovered the South Pass, through which tens of thousands of emigrants have since travelled to the fertile lands of Oregon, and the Californian gold fields.

Frémont fitted out his party with more care on this than on the former occasion, and even carried with him a small howitzer along this difficult route; but after he had dragged it through the mountains he had after all to leave it behind him in the snow.

It was in the month of May that he left the borders of the state of Missouri, and by November he was the guest of Dr. MacLaughlin, governor of the English Hudson's Bay Company's Fort Vancouver, on the Columbia River. After a short stay there he set out on his return, with twenty-five men and a hundred horses and mules; but he did not propose returning the way he had come, but by a more southerly route, near Lake Tlamath, on the table-land between the sources of the Fall River and the Sacramento. He wished to determine the exact geographical position of this lake, as well as of another, some days' journey further southward, known as St. Mary's; and thirdly, to convince himself of the existence of the Buenaventura River, supposed to flow through the Utah territory to the Gulf of California, and which is even marked thus in old maps. After this he meant to cross the Rocky Mountains to the sources of the Arkansas, and thence to go home by the shortest route he could find.

He left Fort Vancouver on the 20th of November, and very soon found himself in deep snow that greatly obstructed his journey over the mountains, and when he descended on the eastern side, he did not find Buenaventura as he had expected, but a wide plain or lowland, enclosed on all sides by chains of jagged mountains covered with snow. He travelled for a long time in a southerly direction, until by his own calculation he was about seventy miles to the west of San Francisco, and compelled by great distress to think of his own and his companions' safety. No single man of the party had ever been in these regions before, and no native whom he met could either by presents or promises be induced to serve him as a guide through the mountains, where the snow lay fathoms deep.

Death in one of its most terrible forms—death by hunger—now threatened the whole party in this frozen wilderness, and the only chance of escape was to attempt to cross the mountains and find the Sacramento River. He took this course, therefore; but the sufferings of himself and his comrades were terrible, and it took them forty days to do this distance of seventy miles. Even the Indians whom they met shuddered at the thought of forcing a way through the snow, but it was absolutely necessary to attempt it, for if they remained where they were, the end was certain.

Tormented as they were by hunger, they dared only use for food the animals which could not be urged on, for with every beast they lost, a portion of necessary articles had to be abandoned, or another man was compelled to travel on foot. Several of the men lost their senses with cold and hunger, and to the terror of their companions talked continually in their delirium of things that had no existence. The sufferings must have been formidable under which even the trappers gave way; but there was no murmuring, and the devoted men all followed their commander with unshaken fidelity.

After an indescribably painful journey of forty days, the party reached Captain Sutter's farm on the Sacramento River, and were most hospitably received. Of the sixty-five mules with which the passage of the mountains had been begun, only thirty-three were left, and these were too weak to carry burdens, and had to be led by the men.

On the 24th of March, 1844, Frémont and his men set out once more, much restored and re-equipped. His plan was to explore the pass near the sources of the San Joaquin river, about five hundred miles to the south of Sutter's farm, and thence to proceed to the source of the Arkansas. This part of the journey was obstructed by the hostile disposition of the natives, who continually hovered about, and murdered some of the best men in a frightful manner.

On the 23rd of May, the expedition reached Lake Utah, directly connected by a river with the more northerly Salt Lake, with which Frémont had become acquainted on a former journey, when he had undertaken a dangerous passage to one of its islands in a canvas boat. Eight months had passed since then, and now, after describing a wide circuit, and travelling 3500 miles, he found himself once more by the waters of that great basin, and was able to determine the geographical position of the southern, as he had previously done of the northern point. He afterwards reached his home without further accident, and at the recommendation of General Scott was rewarded for his great services by being promoted to the rank of captain.

The remainder of the year 1844 was occupied by Frémont in drawing up the complete report of his last expedition, but in the spring of 1845 he was ready to set out again, and this time his object was to explore the coasts of Oregon and California, as well as the regions known as the Great Basin, and also to inquire for the most advantageous route from the United States to the Pacific Ocean.

The spirit of the American people carries them continually forward: no task appears to them impracticable, and scarcely is one enterprise completed, and one question settled, than new plans for the advantage and aggrandisement of the nation are formed, and, when formed, executed, without a moment's loss of time, and with all the power and energy which its enormous resources enable it to command.

In the year 1853, as we have seen, the American government was sending out an expedition to find the best way for a railroad connection between the Mississippi and the Pacific, whilst but ten years before it had thought of nothing better than of making between those two points a common road, by which trading caravans might travel in safety. Even the American, acquainted with the history of his country, must be astonished at what has been done in this period. In that great basin, since called the Utah Territory, which Frémont explored amidst so many dangers and difficulties, rise now the prosperous settlements of the Mormons, rendering populous the fruitful valleys of the rivers; and through the South Pass, which Frémont discovered and described, hundreds of thousands of people have since travelled, under whose hands towns, canals, and railroads have sprung into existence on the paradisaical districts of the Pacific coast; and, doubtless, no long time will elapse before that journey through the wilderness, which required months of toil and danger, will be traversed easily in a few days.

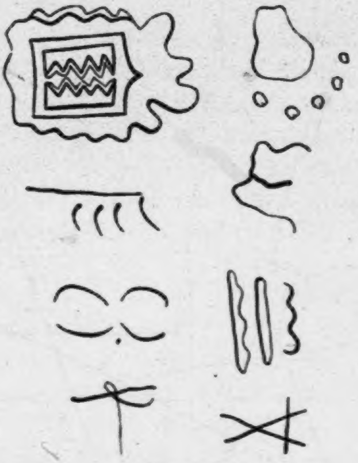
Conversing upon this and similar topics, we journeyed on till we came to a place where the road was divided into two, one branch turning southward to the cedar woods that covered the declivities of the heights we had now reached. At their foot extended a broad valley, bounded on the opposite side by high rocks, and through the middle of which wound a small river called the Puerco. The other road led to the north, and appeared at a remote point to descend into the valley, and without waiting for our companions or the waggons, we chose the first, where the thick cedars soon completely prevented our seeing far before us; and we had scarcely entered these woods before the road split into many paths, intersected again by others, and at length all traces of a road disappeared. The numerous stumps of trees and decayed branches lying about left us no doubt that we were on the spot whence the people of Isleta fetch their fuel, and we now rode down into the valley, in order that by following it in a northerly direction we might again fall in with our companions. We soon got to the river, but to our great vexation we found it dry, and in order not to tire out our mules by riding about to no purpose, we resolved to pass the night here as well as we could, and looked about for a place where our cattle might find a little fodder, for of water we had no longer any hopes. But we could no more find grass than water, for the level valley was covered with dry ashes and dust, from which protruded here and there a few withered brambles. A raven, which, in default of anything better, we destined for our supper, had enticed us back to the bed of the river, at a place where it was bordered by some low willows and cotton-wood trees; and our poor hungry mules fell on the young shoots and their twigs with eagerness, thereby pointing out to us the place for our night's bivouac. We soon had a blazing fire, the twilight was closing in, we had given up all thoughts of seeking our party till the following day, and were contemplating rather ruefully the unsatisfactory raven which lay ready plucked, when to our no small joy we distinguished at a distance one of our waggons, with its team of six mules, just emerging from the deep shade of the wood, and moving slowly in the direction of the bed of the stream. We were in our saddles again in very brief space, and after a brisk ride of half an hour came up with our company, who had reached the river-bed at a place where some puddles of muddy water offered the most indispensable refreshment. There we learned that our second waggon had again met with an accident, and that it would arrive with our tents and other properties at a later hour. It did not come in till midnight, when we were all lying sound asleep in the open air, as we had preferred this plan to the trouble of putting up our tents.

Scarcely had the sun sent his first beams into the valley on the following morning, before we were ready to start again on our journey; but it was not without difficulty that we crossed the little river. When we did so and reached, soon after, the end of the valley, we suddenly found ourselves surrounded by scenery of a totally different character. The rugged rocky ground, consisting sometimes of great hills of broken masses of sandstone, sometimes of smaller accumulations of crystallised sulphate of lime, in which the rays of the sun were glitteringly refracted, opposed innumerable difficulties to our passage; and the little-trodden path that we followed led us, while it was still early morning, to a steep range of hills that threatened to give us a good deal of trouble in crossing. A sudden turn of the road, however, showed us, just before we reached them, that nature had opened a broad gate through which we might pass to a level road, while the rocks towered up precipitously on either side. This chain of hills was evidently formed from an immense deposit of sandstone, the western extremity of which had been upheaved by volcanic force from its original position, and then split across, the fissure thus formed being the natural gate above mentioned; and as the strata, lying horizontally above one another, again formed perpendicular cliffs, the whole had much the aspect of a grand work of masonry, consisting of gigantic masses of freestone.

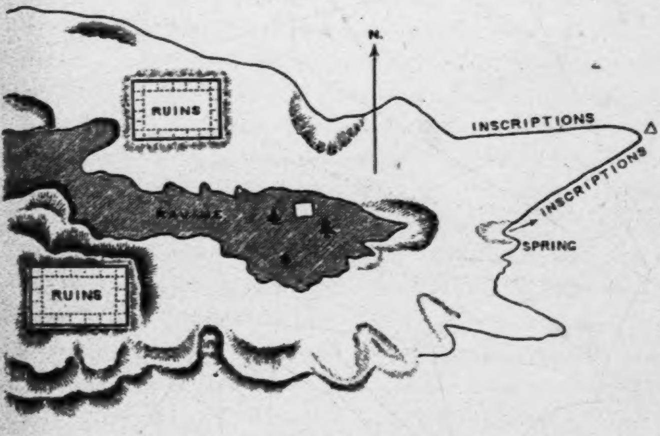
Where in scenes like this the inquiring traveller stands in silent awe to contemplate the sublime architecture of nature, and, it may be, devoutly raises his thoughts to its Almighty Creator, and bows in adoration before his all-embracing power — the uncivilised inhabitant of the inhospitable wilderness also feels impelled to some attempt to express the emotion awakened even in his mind by the grandeur of the scene. The savage could give no account of feelings originating in the divine spark implanted in every human breast; but without knowing why he thinks of his Manitoo, and attempts to give utterance to his confused ideas, in hieroglyphical signs, and symbolical figures, cut in the hard rock; and accordingly, the smooth walls of this natural rocky gate bore many such, sometimes merely cut, and sometimes rudely painted in colours.

As we continued our journey, the way became more and more rugged and difficult, and every trace of vegetation soon disappeared. On some of the heights we discovered, on the surface of the stony ground, well preserved specimens of larger and smaller ammonites, which we took with us in order to obtain, by means of them, information concerning the formation of the (14) district from the geologist of the expedition, M. Marcou, who was travelling with the main body.

At last we reached a kind of elevated plain, where



Indian Rock Inscriptions.


N.
RUINS
INSCRIPTIONS
INSCRIPTIONS
RAVINE
SPRING
RUINS

Ground Plan of Ruins on the Moro.

(*Referred to at p. 74.*)

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little scanty grass was growing between some crippled cedars, and we halted here, to allow our cattle to get what food they could. From this spot we had a view over a large valley stretching out far towards the west, where it appeared to be shut in by high rocks. In whatever direction we looked the horizon was bounded by blue mountain masses, before which rose precipitous rocks, flat at the top, and covered with dark cedars. North and south of us, about five or six miles off, appeared rocky chains, which in the remoter distance seemed gradually to approach each other and finally to blend into one. That was the spot where the Rio San José burst forth from the mountains, and it was there that, according to our agreement with Lieutenant Whipple, we were to meet with the main body of the Expedition.

When our animals were somewhat refreshed, and that we too had renewed our courage with a cold dinner, we set out manfully again, and after a short march found ourselves at the place where the way by which we had come is crossed by the road from Albuquerque. From here to the above-mentioned place of rendezvous was about twenty miles, that is, a good day's journey, and as Lieutenant Whipple would only have left the town on this day, we could not count on a re-union of our whole party till the following one. We had still a long way to go before the road would approach the San José, the course of which we could trace at a distance, and we hastened our steps in order to reach it before evening. The dry wind, that had been growing stronger and stronger all day, towards evening increased to a gale, and drove the dust and sand into our faces in a way that was far from agreeable. As we approached the rocky chain, however, it afforded us some protection from the storm, and we had leisure to observe the magnificent combinations afforded by the stupendous masses, which sometimes rose as precipitous rocky walls, sometimes formed ravines covered with rolled stones, and overgrown with cedars. The mountain ranges here approached each other till at last there remained only a space of a few hundred yards between them, and through the midst of this flowed the San José.

Twilight was not far off when we reached the pass, and pitched our camp in a meadow of thick grass, to wait the coming of Lieutenant Whipple and his party. It had been a most fatiguing march, from our having had constantly to struggle against the violent wind, and very soon after our arrival the solitary sentinel, who divided his attention between our tents and the herd of grazing mules, was the only member of the party who was not fast asleep.

The rough stormy weather was followed by one of the mild bright autumn days so common in New Mexico, days that seem to call back to life the nature that has nearly sunk into her death-like wintry sleep. The plateaux of the rocky masses around us were bathed in sunshine, and the warm atmosphere quivered softly between the eye and the umbrageous cedars on the heights. Only a few yards from us the Rio San José rippled along briskly towards the Puerco, and geese and ducks plashed about in its bright waters, and seemed to listen to the quiet murmur of the stream. Our guns, however, soon carried terror and death among the splendidly feathered wanderers, who, on their long journey to the south, to fly the approach of winter, had been tempted to choose this inviting rivulet for a resting-place.

We pursued our game along the course of the San José, and besides the snow geese, made prey of some beautifully marked creek ducks, whose skins went to form the commencement of a new collection. We also climbed a rocky range that lay to the south, in order to examine more closely the ruins of a town that we had perceived from a distance on a plateau. Judging from the walls, foundations and fragments left, this town must have closely resembled in its construction the still inhabited Pueblos, and have contained dwellings on the plan of the Casas Grandes on the Gila, with the moveable ladders.*

It is to be presumed that these ruins were mostly built and inhabited by the ancestors of the present population of the Indian town of Laguna, which lies about two miles off, and it is very common to find in New Mexico, near the inhabited Pueblos, ruins on the heights which bear the name of the nearest town.

Whether the former occupants of these regions fled, as many assert, from a great deluge, and taking refuge on the heights, there built new habitations; or whether they retired before the advance of hordes set in motion by the Aztec invasion, is a question hard to solve. The authentic traditions of the present town-building Indians of New Mexico do not go far enough back to enable them to speak of the general movement that took place among their forefathers, for every event more than a hundred years distant appears among them as a dark obscure fable. We sought for a long while among the ruins for objects that might have dated from the time of the former inhabitants ; but we found nothing but fragments of pottery, exhibiting specimens of painting like what may be seen on the household utensils of the Pueblo Indians, and also on the masses of broken earthenware which lie scattered around the Casas Grandes.

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* In the description of the ruins on the Colorado Chiquito.—I shall afterwards enter more into detail concerning the Casas Grandes on the Gila and in Chihuahua, and at the same time compare the ruins of towns lying under various degrees of latitude.

Towards noon Leroux and some of our comrades arrived at the camp, and were soon followed by Lieutenant Whipple and the whole Expedition ; but they only staid long enough to exchange some hearty greetings with us, and then went on to the town of Laguna, where they proposed passing the night, and waiting for us to join them on the following morning, after which we were to continue the journey together.

We broke up our encampment very early on the 13th of November, and soon found ourselves in a narrow pass, closed in by rocks and vast masses of stone ; even the road, which was a continual ascent, was in many places formed by successive blocks, and scarcely passable for our waggons. When we had reached the level of the plateau, on which we had examined the ruins the day before, the country declined again for a short space, and before us, on the declivity of a gently rising hill, lay the Pueblo Laguna.

Most of the Indian towns of New Mexico are so exceedingly like one another, that the only choice between them is in the difference of situation, and the greater or less agreeableness of the environs ; but the one now in sight, with its grey terraced houses, rising one above another, the numerous ladders leading to the different stories, and the Indian forms moving in various directions or standing about on the roofs,—had not only an interesting, but even a picturesque and beautiful effect.

Some Americans and Mexicans saluted us at our approach. They had built themselves habitations almost adjoining the town, and apparently opened shops there: a missionary whom we saw had preached there on the preceding Sunday.

As soon as we got into Laguna, we hurried down to the San José, which flowed close beneath the houses, to fill our bottles with good clear water, for at the place where we had passed the night it had flowed over beds of gypsum, and been almost undrinkable from the quantity of magnesia dissolved in it. Before following our waggons, which had already reached Lieutenant Whipple's camp, and were there awaiting further orders, we went to see the town, and in the burial-place of the Indians my friend Kennerly contrived to pocket, unobserved, a very well-preserved skull, which he triumphantly exhibited to me when we got beyond the reach of the sharp Indian eyes. In this burial-ground it struck us that many of the bones were only scantily covered with earth, and both bones and skulls appeared to have been shattered by heavy stones, so that we could scarcely find one uninjured ; but if the Indians had had any idea of the robbery we had committed, we should probably not have been allowed to escape so easily. We did succeed, however, in carrying it off unobserved to the camp, and there made all possible haste to hide it in one of the waggons.

Besides these sixteen heavy waggons drawn by si and eight mules, we had fifty beasts of burden for th transport of provisions and other effects; and as mos of the mules are unused to this kind of work, it wa unavoidable that during the first days there was always a delay when we were about to set off; but fortunately, the Mexican drivers are so skilful in breaking in and loading these animals, that they soon fin means to convince the most headstrong, and to faste the well distributed burden on their backs so firmly that they can have no hope of getting rid of it, eithe by bolting or kicking.

Our Expedition, with its reinforcement of twenty-five men and sixty more mules, now made an imposin appearance, and the van of the long processio stretched out far into the plain, while the last of th muleteers and their beasts were only just leaving th town of Laguna. This day's march carried our company through a broad, fertile valley, intersected in al directions by canals, and the agricultural settlers, b guiding the water through the smallest runnels, ha completely softened every part of the land. The immense flocks of water birds which, tempted by th spacious lake in the middle of the valley, covered ever large or small pool, enticed many of us to leave th road in the hope that a lucky shot might enrich ou collection; but we got so entangled among the canal and ditches that it cost us much toil and trouble t get back to the waggons. Our chase too was altogether fruitless, for all we got by it was a sight of th countless flight of birds that hovered screaming an chattering over the lake, or circled with vigorou wings high in the air above the valley. This is doubt less a common sight enough, yet I can never watch without interest the proceedings of the creatures thus obeying the instinct implanted in them by nature, and making their preparations for these long journeys.

The traveller who is himself far from his native home, has a kind of sympathy in their doings, and easily persuades himself that they are communicating with and understanding one another. There, for instance, stands a group of snow geese, apparently listening with respect to the remarks of an old experienced gander, who is giving them good advice about this and that, and very likely pointing out to their notice that there is a man watching them. The more sober of his hearers stand motionless, only showing their attention by quick, knowing turns of their heads; whilst the younger and more conceited are at the same time attending to their feathers, and putting every ruffled one in exact order. Long-legged strand-snipes stalk past unnoticed by the geese, stop for a moment to hear what the gander is saying, and then, as if it was in their opinion nothing worth attending to, turn their backs upon him, spread out their pointed wings, and shoot swiftly across to the opposite shore. On the lake are groups of various kinds of ducks, wrangling and quarrelling, and then going off altogether to another party, as if they meant to appeal to them to settle their dispute. It appears that a judicious decision has been given, for the assembly is now dissolved, and the members of it disperse to indulge in a little recreation, perhaps in anticipation of a pleasant journey, — now diving down into the water, now trying the strength and suppleness of their pinions by flapping them with all their might.

Apart from all this vulgar noise and bustle, so stately swans are floating tranquilly along, occasiona bending down their long necks to gaze thoughtfu into the flood, and possibly meditating on the long a wearisome journey that lies before them. Whoev observes attentively the ever-varying spectacle of bu animal life, and sees, in every movement, in every co cidence, not mere accident, but the wise ordinance nature, will enter into the pious spirit of those words Goëthe : —

"Thus does Nature speak to known, unknown, a mistaken senses, to herself and to us, through a tho sand phenomena; and to the attentive observer she nowhere dead or dumb."

Our road ran along the foot of a mountain range th lay to the northward of us, and at the distance of s miles from Laguna it turned north into a mountain pa at the western side of which we saw a Mexican sett ment, the town of Covero, to the foundation of which spring, that now came gushing in a thick stream from cleft in the rock, had given occasion. As we ro through the narrow pass we could see that the hous were stuck to the rocky walls like swallows' nests, a the settlers, partly no doubt out of idleness, but part with a view of giving their houses greater solidity, h turned every smooth surface and every hollow of t rock to account in their buildings. Near the sprin the houses, crowded closely together, presented a mela choly picture of poverty and dirt, and such of the pop lation as we saw about gave the impression of people wh would only work just as much as was necessary to ke them in existence, and enable them to dance an occ sional fandango.

We set up our tents in an open space in the middle of the town, where there gushed out just before us the above-mentioned spring of excellent water; and on the broad sandstone rock which opened to pour forth this welcome supply we saw a remarkable stone in the form of an immense urn, with a somewhat feeble foot, that rose ten feet high, and formed so conspicuous an object that it could not fail to attract the attention of every passer-by. What made it the more remarkable was, that instead of being, as might have been supposed, a mass of rock rolled from above, which the atmosphere and the rains had worn into this form, it was itself a part of the sandstone deposit on which it rested, and the weak foot, by which the whole burden was supported, was so hollowed out that a man could conveniently crawl through it.

The town of Covero lies at the eastern end of a wide plain, which is also again enclosed by rocks and mountains; the soil is sandy and barren, so as scarcely to afford sufficient nourishment to the flocks and herds of the inhabitants; and small fossils, oyster and other shells lie about on it, which have evidently been washed down from the mountains (15).

We travelled on the following day over a gradually ascending plain, and although the forms of the mountains near us, as well as of those that still lay far off in the misty distance, awakened strong interest, the landscape became more attractive when, after a march of eight miles, we began again to descend, and found ourselves near the San José, which, coming from the north west, watered a small valley and then flowed towards the south. Here we came first upon the streams of lava which traverse the country for miles like long black walls; and we perceived that we were now near the chief furnace of these volcanic regions, namely, some days' journey to the south of Mount Taylor (16).

Active volcanoes, that tower to a majestic height above a country, and send up columns of smoke to the clouds, doubtless tend much to beautify the regions where they are found; but the remains of extinct ones have a very different and commonly very disagreeable effect on the surrounding scenery. The lifeless form of what was once a wildly-raging, earth-shaking, burning mountain is almost spectral in its aspect; but the inquiring traveller can calmly pursue his researches in the bed of the once fiery stream, and refresh himself at the sweet cool fountain that bubbles forth from its black stony veins. The place where we encamped on the 14th of November, though generally answering to this description, was not entirely destitute of the ornament of vegetation. The strips of meadow land had indeed lost their pleasant verdure and their flowers, and donned the faded livery of autumn; but the dwarf cedars that crowned the low rugged hills and the tops of the broad rocks had remained untouched by the destructive frost that nightly covered all objects with its icy crust. Between these dwarf cedars we lay down before a blazing fire and enjoyed a plentiful supper of roast ducks, having made prize of a considerable number of that savoury fowl among the reeds of the neighbouring stream and on the flooded lowlands.

Our conversation this evening turned chiefly on the passes through the Rocky Mountains, and especially on that one which the Expedition was about to traverse. By following the stream of the San José to its source in the Sierra Madre*, we should have the choice of three points at which we could pass the last chain; namely, first of the Camino del Obispo, a place in the vicinity of the Zuñi road; secondly, through the Cañon del Gallo and the Zuñi Pass; or, thirdly, by Campbell's Pass and the Fort Defiance road. It was settled that our Expedition should leave the San José to follow the Camino del Obispo, whilst our first engineer, Mr. Campbell, in company with the guide, Mr. Leroux, and some soldiers, should take the Fort Defiance road, leading to the north-west, and meet us again at Zuñi. The pass through the Cañon del Gallo we did not examine; but it was stated by some well-informed Mexicans to be considerably lower than the Camino del Obispo, and likely to present much fewer hindrances to the construction of a railroad. Concerning the Campbell's Pass, however, Mr. Campbell brought us a most favourable report, so that there can be little doubt that the decision will be in favour of the route of Fort Defiance.

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* Sierra Madre is the name given to the principal ridge of the Rocky Mountains, which forms the watershed between the streams falling into the Gulf of Mexico on the one side, and the Pacific on the other.

CHAP. IV.

MR. CAMPBELL'S JOURNEY TO FORT DEFIANCE. — SCARCITY OF WATER. — SPRING AT THE FOOT OF THE SIERRA MADRE. — PASSAGE OF THE SIERRA MADRE. — INSCRIPTION ROCK. — THE RUINS OF NEW MEXICO, AND THEIR ORIGIN. — RUINS ON THE ZUÑI ROAD. — THE DESOLATE CITY. — THE CAMP BEFORE ZUÑI.

On the 15th of November, Mr. Campbell and his companions set off towards the north-west, while the main body of the Expedition, after following for about a mile the same course, turned due west. On this first part of our march we passed along a high projecting bed of lava, until another meeting it at a right angle seemed to bar our way.

It was a fresh, beautiful autumn morning, and a sharp frost had hardened the roads, so that the hoofs of our mules rang loudly on the firm ground. But louder still was the sound, like that of iron upon iron, when our waggons began to roll over the bed of lava, from fifty to a hundred feet broad, and from ten to twenty feet high, that stretched like a vast black wall many miles towards the west.

Men and cattle had been crossing this bed of lava for centuries, yet the irregularities of the surface were as sharp and rugged as ever, so that even the sure-footed mules were continually slipping and stumbling over them. On the other side of the stream of lava extended a wide, treeless plain, again enclosed by rocks and mountains; but the mass appeared to open towards the west, and at the point towards which our well-trodden road led, lofty pines took the place of the dwarf cedars.

I had left the train early in the morning, and had ridden forward, in company with Dr. Kennerly, to the foot of the Northern chain of rocks, where some thickly-wooded ravines seemed to offer opportunities for sport. But we found ourselves disappointed, for, except some fresh tracks of the grey bear, we saw nothing to indicate the presence of game; and as to the bear, we might have gone rambling and scrambling about the ravine for days together without getting a sight of him. We were obliged to content ourselves, therefore, with shooting a few birds, and adding their skins and some fossil shells to our collection.

In the afternoon our company came up with us at the end of the valley, and we then passed round a promontory of the rocky chain that lay to the north, and pursued our course in a north-westerly direction. Pine woods here alternated with small treeless savannahs, and through every opening in the forest we saw again walls of black lava.

We had intended to travel on this day as far as the spring at the foot of the Sierra Madre, and the Mexicans had gone on before with their flocks and pack mules; for as we could not hope to find any water before getting to that spot, we were all willing to make this long twenty-five miles' march. An accident, however, frustrated our plans, and though the Mexicans with their charge reached the spring, the rest of the party were compelled, by the breaking down of a waggon, to bivouac in a grassy hollow in the woods, and pass the night nearly without water. A very small quantity was got together by draining all the skins and bottles, and then not a drop remained for the following morning.

The damaged waggon had been repaired during the night, so that we were able to start again at an early hour, and by the time it was full daylight, and the sunbeams had begun to glitter between the slender trunks of the pines, we had gone several miles, and were but a little way off the much-desired spring.

Our muleteers, who had got there the night before, had lit roaring fires in suitable places, which looked very cheering after our ride in the cold morning air; and the sight of the beautiful clear water that rippled out from a heap of lava, drove away the remainder of the ill-humour that had been occasioned by our excessive thirst. It was a pleasant spot in which we had taken up our quarters this time; the mountains sheltered us from the cold wind that whistled through the tops of the pines, the mighty piles of blazing logs diffused an agreeable warmth through the tents, and men and cattle gave themselves up to the enjoyment of the good gifts that Nature had here bestowed on them.

Dr. Kennerly, and I too, obtained a rich harvest for our collections at the spring, where small striped squirrels enlivened all the clefts and chasms of the lava, and leaped with their wonted agility from stone to stone; while flocks of birds were continually twittering and warbling about the water. Abundant as the spring was when it first gushed out, it was soon lost in the sandy soil, and as it was the only water for many miles round, it was easy to understand how so many living creatures were to be found in its neighbourhood.

In the afternoon we made an excursion to the ravines to the south, to lie in wait for some black-tailed deer, of which we had seen many traces near our camp. Dr. Bigelow accompanied us, and when we separated to go round a hill, it was unluckily he who first caught sight of the herd. Of course he fired at it from too great a distance, and so only drove it away; and he had to put up with a great deal of teasing from the other sportsmen for the difficulty he seemed to have in restraining his ardour for the chase. Long after we had returned to the camp, and when it was quite dark, we perceived he was missing; but his absence did not create much uneasiness. We lit large fires and fired shots, and then several of us set off to look for the good old gentleman; but we met him not far from the tents, in a state of radiant satisfaction with his success, for he had got several shots at a fine stag, and then —had lost his way.

Early on the 19th we continued our journey, and began to climb the chain of mountains that lay before us, and after some pretty hard work we found ourselves, in no very long time, on the summit of the ridge of the Sierra Madre, the watershed between the Atlantic and Pacific Oceans, and at this point 8250 feet above the level of the sea.

We soon descended into an extensive valley, into which, here and there, ran spurs from various ranges of mountains, and which included a level highland with horizontal strata, and wild hills that gave a picturesque character to the landscape. Where the roots of trees could by possibility find room between the masses of stone, there were sure to be seen dark woods of pine and kindred species; and at rare intervals the black line of this forest was broken by the withered foliage of a solitary oak. In the plain itself, which passed towards the west into wave-like undulations, trees of the coniferæ species were scattered sparingly about in the hollows. Our way led, in a westerly direction across the plain, towards a range of mountains running north and south, and then northwards along their base. After some time the range again turned to the west, and when we had passed the angle formed by this turn we came in sight of Inscription Rock, rising like a grey giant before us, at the distance of about two miles. The precise form of the rock could hardly be ascertained at this distance, but it evidently rose perpendicularly to a great height, and had very much the figure of an obelisk.

The spring at this rock had been fixed on as the goal of this day's march; and as we all wished for an opportunity of examining the inscriptions and ruins, of which we had heard so much, and were aware that we should have to continue the journey on the following day, we urged on our mules to their utmost speed, and trotted up and down hill, over the frozen ground, at a brisk pace. Several hours before dark our tents were already pitched, and we were setting out to find a path by which we might climb the rock. From our camp, which was placed immediately at the base of the eastern point of the Moro (as the rock is called by the Mexicans), it appeared inaccessible, rising for 200 feet from the ground as smooth and abrupt as a mass of masonry; but this point was one angle of a triangle of which one side ran towards the west, and the other to the south-west. The southern wall, at the distance of some hundred yards from our camp, where it had a perfectly smooth surface, was covered with incisions and irregular low formations, whilst the northern, for the extent of nearly half a mile, appeared to maintain the same height and the same direction, but was nearly covered by lofty pines and cedars.

The spring was at the south side, in a small ravine, at the place where the smooth rocky wall came to an end; but it had only a scanty supply; and the water, which formed a little pool, was hardly enough for our Expedition.

A large pine stood alone in the dark corner by the water; but the remainder of the southern side of the rock was covered by dwarf cedars, reaching up to the summit of the plateau, and adding greatly to the picturesque effect of the scenery. The formation of the rock ([17]) showed grey sandstone, lying in immense, closely-connected strata, which inclined a little towards the west, so that the eastern peak of the rock was the highest point, and we had to go round to the west to seek a method of access to it. Before ascending Inscription Rock, however, we sought out the inscriptions of which Lieutenant Simpson had already spoken in his Report to the Secretary of War in the year 1850. On the north, as well as the south side, where smooth vertical walls of yielding sandstone rock offered the most convenient opportunity for such a purpose, names and inscriptions had been cut, that with few exceptions were in the Spanish language, and in an antique character, affording the most convincing proof of the extent to which the Spaniards had carried their researches and enterprises.

There is a strange and even solemn feeling in standing thus before these mouldering and half-illegible, but still venerable, relics of past times. There are, indeed, to be seen in many parts of the world more striking memorials of former ages, but they are mostly known, and we have been prepared for the sight of them by historical records. But the impression was more powerful, and we were more immediately carried back in imagination to those long-departed generations, when we stood face to face with these newly-discovered tokens of the presence of the mail-clad Spaniards who also once stood here laboriously carving those inscriptions, and look around us on the objects that have ever since remained untouched, and tried to decipher the characters on which hardly a human eye had since then rested.

The names which form various groups, have been cut at different times, as chance directed, or as it pleased successive travellers to place them, here and there, among the former ones. In one place, for instance, you find, "In the year 1641 Bartolome Romelo," and then some words no longer legible. Further on, "In the year 1716, on the 26th day of August, came past this place Don Felix Martinez, Governor and Captain-General of this kingdom, in order to subject and annex the Moquis," and again some illegible words. Then, "On the 28th day of September, in the year 1737, came past this place Bachelor Don Juan Ignacio de Arrasain." "Diego Belasquez came past this place." "On the 28th day of September, of the year 1737, reached this place the famous Doctor Don Martin de Liza Cochea, Bishop of Durango, and left on the 29th for Zuñi."

"Joseph Dominquez and others came past this place in October, with much caution and some fear."

"Juan Garica de la Rêvas, chief Alcalde, and the first one chosen for the town of Santa Fé, in the year 1716, on the 26th of August."

"By the hand of Bartolo Fernandez Antonio Fernandez Moro. Bartolome Narrso, Governor and Captain-General of the province of New Mexico, for our lord the King, came past this place on his return from Pueblo de Zuñi, on the 29th of July, of the year 1620, and restored it to peace, admitting the people, on their request, to the favour of becoming subjects of His Majesty, and they were again obedient; and they did this out of their own free will, considering it as more wise and Christian * * *" "a so renowned and valiant soldier * * * " the rest is entirely decayed.

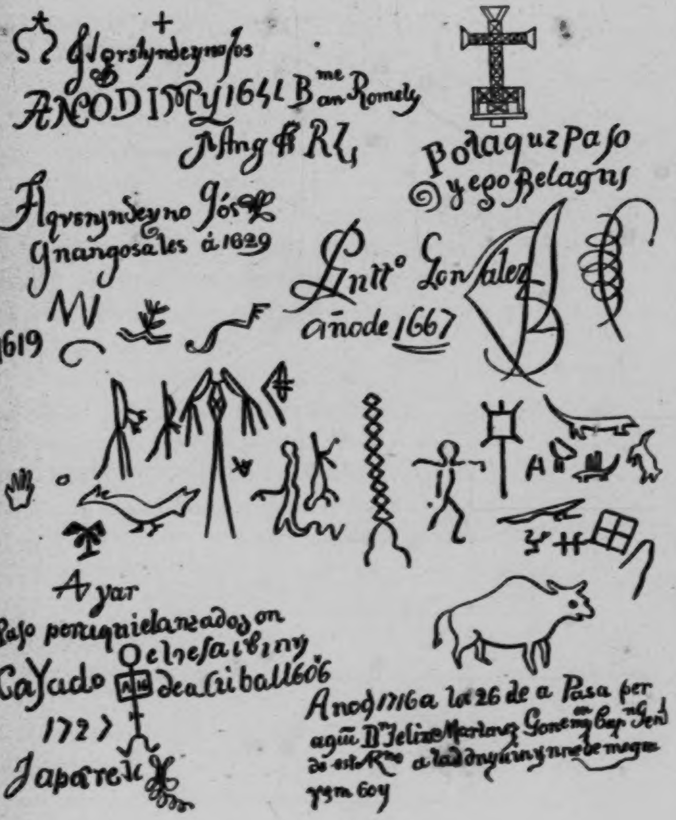
"There passed this place with despatches (some words effaced) on the 16th day of April, 1606."

This last seems to be the oldest of the inscriptions, of which there are some hundreds, covering the smooth face of the rock, and among which are many names of men who played an important part in the conquest of New Mexico. Lieutenant Simpson, who first examined these inscriptions in the year 1850, and with much labour deciphered them, received from the secretary of the province of New Mexico a paper relating to them, of which I here give the translation as it has been already given in Simpson's report. The letter is to the following effect:—

"The inscriptions cut in the rocks near the Fish Spring (*Ojo pescado*), not far from the Pueblo de Zuñi, and of which you have taken copies, do belong to the epoch to which you have referred them. I have myself but an imperfect idea of them, as, though I have passed the place three times, I have never had an opportunity of examining them. The other signs and unknown characters contain traditional memoranda, by the Indians, of striking historical events that have occurred among them. It is difficult to draw accurate conclusions from these records, for many Indians employ, in such cases, small characters that can only be understood by those who are familiar with their ideas, since they are mere fragments or hints. The nations who inhabited this country before its discovery by the Spaniards were superstitious and worshipped the sun.

"It would give me great pleasure to give you precise information concerning the state of things at that time, but it is not in my power, as I am myself in want of reliable information in various details, and many of the events took place only a few years after the conquest by Juan de Oñate, in the year 1595, and all records of earlier date than 1689 were lost, when, in the insurrection against the conquerors then in possession of the country, the Indians burnt the archives. In the year 1681 the governor, Antonio de Otermin, received from the viceroy orders to return and subjugate the country. He penetrated as far as Pueblo de Cochiti, but met with resistance; and as the forces that he had brought with him were not sufficient he had to retire the same year to El Paso. In the following year Cruzat undertook an expedition to New Mexico, took possession of the capital, and extended his conquests with rather more success; but could not hold them longer than till the year after, when he too had to fall back on El Paso. In the year 1693, Curro Diego de Barbas Zapater penetrated as far as Pueblo de Zuñi; but without effecting anything further, went back again to El Paso; but in the year 1695 he completed the pacification of the country.

"Then came a series of governors, amongst whom


1641
Polaquz Paso
1629
1619
año de 1667
Ayar
1606
Ano d 1716 a los 26 de a Pasa per
1727

Rock Inscriptions near the Fish Spring.

UNIV. OF MICH.

were Feliz Martinez and Juan Paez Hurtado, and the most exact information can be obtained concerning them, by searching in the registers preserved in the ancient archives of the government, for the period of their administration.

"Your brief stay here does not admit of my instituting more exact inquiries, and making you acquainted with the historical connection of these occurrences. My information can, therefore, by no means be regarded as decisive for your views, since my limited powers do not enable me to investigate certain points with the due amount of care; but they may in some measure serve you as a guide in your researches, as the events are chronologically arranged.

"Should these remarks be of any service to you, and should I hereafter have the same easy access to archives as at present, I will with much pleasure undertake any work you may desire connected with them, and communicate to you the results.

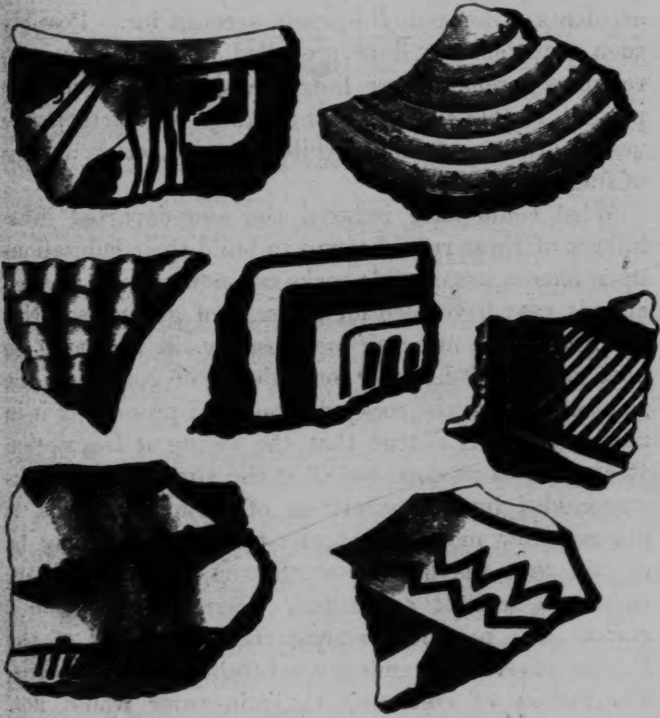
"I am, Señor,
"Your obedient Servant,
"DONACIANO VIRGIL."

"To Lieutenant Simpson,
"Topographical Corps, U.S.A."

This letter, which Lieutenant Simpson received in answer to his inquiries, clearly shows whence the inscriptions proceed; and the presence of Indian figures and hieroglyphics along with the Spanish names is easily explained from the fact that, as this is the only spring for many miles which the old Zuñi road passes, travellers, whether European or Indian, usually rested here, and were tempted by the smoothness of the sandstone rocks to make inscriptions and drawings on them. Towards the end of the afternoon we reached the south side of the rock, where the less steep position of the masses of stone made the ascent of the Inscription Rock easier, and after frequent slips on the slanting surface of the blocks we at last reached the highest point, whence we obtained a wide and magnificent prospect of the surrounding country. Looking north or east we could see the Sierra de Zuñi or Madre, covered with dark cedars and pine woods, running from north-west to south-east; and towards the south the horizon was bounded by blue mountain peaks and ranges, rising high above the neighbouring wooded hills and table-lands which adjoined Inscription Rock.

Towards the west we saw the horizontal lines formed by the highlands and table-rocks, and immediately around us lay small prairies, scattered over with trees, singly or in groups, that afforded a most pleasing contrast to the wall-like rocks, and displayed a beautiful fresh green colour instead of the prevalent autumnal grey. But what attracted our attention more strongly than either the inscriptions or the prospect was the sight of the decaying ruins of two old towns, the dwellings of a people now passed away, that crowned the heights of the Moro.

The plateau of the rock formed by no means an uninterrupted surface, but was cleft by a ravine that opened towards the middle into a sort of court. The sides of this ravine were, however, so steep as to be inaccessible without artificial assistance; lofty pines grew at the bottom of it, but though they reared their heads to a considerable height, they did not reach the level of the rock where we were standing; only a solitary cliff, that shot up like a column and stood apart from the rocky wall, attained an equal height. On every side of the ravine, which nearly cut the rock into two halves, could be traced ancient foundations, and remains of architectural works; the actual ruins formed a rectangle of 307 feet long by 206 in breadth, and the foundation walls showed that the apartments must have



Fragments of Pottery from the Ruins on Inscription Rock.

run round the sides, leaving a free space in the middle; the principal ones forming the side walls, but there were also traces of architecture visible in the inclosed courts. The chief walls appeared, judging by their remains, to have been carefully built of small blocks of sandstone, cemented together; and, like all the ruins of New Mexico, these were surrounded by an immense quantity of fragments of pottery, so that the idea unavoidably suggested itself of there having been in former days many more pots broken than the ordinary accidents of domestic life would account for. Possibly such a custom may have prevailed in connection with religious ceremonies or festivities,—at all events the present Pueblo Indians, though they use earthenware vessels of the same kind, exhibit no such accumulations of fragments.

What could have induced the long-departed inhabitants of these ruined towns to build their habitations upon almost inaccessible rocks can now only be guessed at. It may have been for the sake of greater security against hostile attacks; or, possibly, in a district so poor in water, for the convenience of collecting the rain-water from the rocky plateau, and preserving it in the hollows. It is true that the spring at Inscription Rock flows at its foot, but if at the times when it was surrounded by the population of these two towns, it did not flow more abundantly than now, we may be certain that the hollows at the top of the rock were turned to account as natural cisterns, according to a custom still prevalent among the inhabitants of the Pueblo of Acoma, and several other Indian towns. The facility of collecting the rain-water would not, however, have been the sole inducement to settle on these heights, as is evident from the sites of the ruins near the Pueblos Laguna and Zuñi. They lie on high ocks, at the foot of which flow inexhaustible springs, ffording a supply that would render the collection of ain-water superfluous—unless as a mere matter of onvenience. At a later period, the inhabitants of those eights appear to have descended into the valleys, nd built on the banks of the rivers new dwellings, nore conveniently situated for the purposes of agriculture and for the occupation of cattle-breeding ntroduced by the Spaniards; but their descendants ave all died out or emigrated, for no inhabited Pueblo s now to be seen in the vicinity of the ruined towns of Inscription Rock, and in Southern Mexico, the last traces of the people to whom they belonged have been long since swept away.

Leaving the Rio Grande, and proceeding westward between the thirty-fourth and thirty-sixth degrees north latitude, the ruins that you pass are so numerous, even in fertile and well-watered regions, that you are continually led to speculate upon the past history of these countries. How richly cultivated must once have been these desolate regions, now only occasionally traversed by bands of Apache and Navahœ Indians intent on plunder. Nearer to the Rio Grande and the Gila, there may indeed be seen a few grey Indian Pueblos scattered among the Mexican settlements, but their number is quite insignificant in comparison to the mass of ruins. Many conjectures have been formed concerning the relation of the Pueblo-Indians to the Aztecs and Tolteks that once overran the whole country, and scarcely a traveller passes through Mexico who has not his own hypothesis to offer on the subject, but no one has yet succeeded in penetrating the deep obscurity that hangs over the history of these vanished races.

Only the most learned and diligent inquirers have been so far successful as to decipher the hieroglyphics, and bring the results they have obtained into such connection as to fill up most of the chasms in the ancient history of Mexico. In this manner we learned how well founded were the conjectures of the migrations and the three halting-places of the Aztecs or ancient Mexicans, which Bartlett, in his nevertheless excellent work*, designates as idle traditions, founding his opinion on the total want of resemblance between the language of the ancient Mexicans and that of any tribe of Indians existing further to the north.

The laborious and elaborate works of a great philologist, Dr. Buschmann, prove how bold is the assertion of such a total want of resemblance. The diffusion of the Aztec names of localities, from the interior of the Mexican Highlands — Coahuila, Chihua-hua, and Michuacan to Guatemala, Nicaragua, Honduras, and Costa Rica, the numerous Aztec words to be found in the primitive language of Sonora, as well as in that now spoken on the island of Omotepec in the great lake of Nicaragua, declare how extensive were the wanderings of the ancient inhabitants of Anahuac.†

Might there not be then, besides the indisputably genuine hieroglyphical writings of the calendar-keeping Aztecs, other marks left of their migrations? Might they not have left traces on the road that would also serve as tokens of their passage? Among the ruins that are found at various parallels between the valley of the Rio Grande and the Pacific, it is very obvious that the further south they lie, the more culture and artistic skill they exhibit. The ancient towns of the south have not fallen so completely to decay as the more northerly, and the unlearned observer cannot but ask amongst whom should these ruins have originated but amongst the ancient races, who, during a journey that lasted for centuries, were doubtless making progress in civilisation; and when they left one halting-place to build new dwellings elsewhere, applied the experience they had gradually acquired to the improvement of their mode of architecture. In this manner may perhaps be explained the difference between the mere heaps of ruins on the Little Colorado, the better preserved Casas Grandes on the Gila, and the temples and other highly artistic structures found in Mexico.

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* Personal Narrative, vol. iii. p. 283.

† See Buschmann "On Aztec Local Names," 1853, Part I. pp. 72, 95, and 171; and also "On the Transference of Sounds of Aztec Words into the Languages of Sonora," 1857, pp. 435, 478.

The towns of the Pueblo-Indians in New Mexico differ, indeed, in many respects from most of the old ruined ones; but there is, on the other hand, a great resemblance in the foundations to the plan of their terraced many-storied dwellings, and in the employment of ladders as the means of access to the interior of the houses. The variations of the newer mode of building, from the more ancient, are very trifling in comparison with the length of the period during which they have arisen; the earthenware fantastically-painted household utensils of the present inhabitants of the Pueblos, give, when they are broken, fragments that are not distinguishable from those found in the ancient heaps of ruins; and the practice of taming birds, namely, eagles, and wild turkeys, one that in these countries dates from the remotest antiquity, still exists among the Zuñis Moquis, and in most of the Pueblos. If it is proved, then, that the ruins of New Mexico may be ascribed to the ancient Azteca, Tolteks, and Chichimeks, there can be no doubt that the present Pueblo-Indians, if not pure descendants of the above races, are at all events nearly akin to them, though a considerable mixture must certainly have taken place. The variations among the languages of the present town-building Indians, and their difference from that of the Aztecs, is indeed, according to Bartlett, opposed to such a conjecture; but it is nothing uncommon to find, on the American continent, tribes of the same race, living at a very short distance from each other, who can no longer understand each other's language: as Germans, Frenchmen, in short, representatives of all the nations of Europe, when they emigrate to America, learn English, which is itself the language of an immigrant race, and their children mostly forget their mother-tongue. The individuals and tribes left behind in the great Aztec wanderings may have joined the races already existing there, learned their speech, and either compelled them to turn town-builders, or themselves have adopted the nomadic life, as the element of the original population, or of the newly-arrived one, predominated; a point determined, perhaps, by their numerical strength.

Thence, too, might be explained the difference that so strongly marks the two great divisions of the brown-red population of New Mexico, the peaceful Pueblo-Indians, with their patriarchal manners and customs, and the nomadic Apaches, with their kindred robber races. The Aztecs may thus be said to exist still more or less in all the Indian races of New Mexico; but you look in vain among them for the large aquiline nose and retreating foreheads, which appear from their sculptures and paintings to have characterised the Aztecs and Tolteks. In one part only of the American continent are you strongly reminded of them, namely, among the Flat Head and Chinook Indians, in the north, near the Rocky Mountains; though, in fact, this peculiar conformation of face is not among them a characteristic of race, but the effect of the practice of compressing the heads of their infants between two boards. By this proceeding, the back of the head is rendered long and peaked, the nose excessively projecting, and the whole physiognomy assumes a bird-like expression; but the more the natural features are distorted, the handsomer they become in the estimation of the tribe. The custom is said to have formerly existed also among the Choctaw Indians, on the Arkansas, amongst whom there are traditions of a great migration having taken place.

At twilight we were still on the top of Inscription Rock, sometimes delighting ourselves with the magnificent prospect, sometimes searching among the ruins for antiquities; but our search was not well rewarded, for we found nothing but fragments of painted pottery, and looked in vain for stone arrow-points, or any other articles that would have been little affected by time or the atmosphere. It was dark by the time we got back to our camp at the foot of the Moro, and the cold wind that howled over the plain violently shook our tents, and disposed us all to gather round the blazing fires, and seek, sooner than usual, the refreshment of sleep under our warm blankets.

The sun shone brightly, the following morning, upon the venerable rock; there had been a sharp frost, and the hoofs of the mules rattled loudly upon the ground, as we passed in a westerly direction round it. The interesting object was soon partially hidden among the lofty pines and cedars, and entirely disappeared from our eyes, as we descended over rolled stones and black lava to the plain below. The wind, which had quite gone down in the morning, now rose again, so that in spite of the rapid pace at which the mules were going, we felt very cold. Wide plains alternated, on this day, with hilly districts, sometimes overshadowed by low cedars, sometimes crossed by beds of lava. Antelopes circled round us in great numbers; but they were too shy and timid for the chase after them to be successful, perhaps, because we were following a route on which, for hundreds of years, the antelopes of this region had had opportunities of forming the opinion that man is a dangerous animal.

Before us, to the west, rose fresh masses of mountains that seemed to bar our way, but we urged our beasts onwards to where the plain terminated in a sharp angle, stretching into the mountains. The small cedar woods, that from time to time had varied the uniformity of the landscape, now became fewer and fewer, and towards the point where we proposed to pass the night, evidently vanished altogether; so that, by the advice of our guide, we tied bundles of dry wood to the waggons, with ropes, and dragged them along to our camping-place, for the cold now made large fires before the tents not only agreeable but necessary.

After a march of about twenty miles, we reached the springs of the Rio del Pescado, (Zuñi River,) there called *Los Ojos del Pescado*.(18) Beautifully clear water trickled at various places from the basaltic rocks, and united into a rivulet that flowed westward through a valley, on either side of which table lands and lofty masses of rock towered up.

We now again found ourselves close to the remains of an ancient settlement or town, but it was covered with turf, and so hidden beneath its grassy mantle, that we only discovered it after close examination, by the foundation walls, and the numerous fragments of pottery lying about. Towards the west, about 1000 yards from the camp, there were more ruins, but of tolerably well-preserved houses, lying close together, and forming a kind of town, on the banks of the river (Rio del Pescado); and since I perceived that our route on the following day would not carry us past them, I determined to examine them that evening.

Following the course of the river, where flocks of ducks, large and small, were startled and driven away by my coming, I reached at length the forsaken town. It rose on the northern bank of the stream, which here attains a considerable breadth, and which I had to cross by stepping stones.

The space covered by this old Indian settlement appeared to be not more than 200 yards by 150; the houses were quite close together, two stories high, and built of flat stones cemented with clay. They inclosed a rectangular space, in the midst of which were the remains of a single building; the Pueblo did not seem to belong to the oldest time, for the roofs and walls were still standing, and even the fireplaces and chimneys recognisable. I got down into some of the dwellings, as it was easy to do, notwithstanding the want of ladders, as they were sunk several feet below the surface of the ground. A cold damp air came from the desolate apartments, and rents and chasms in the walls admitted a partial daylight that enabled me to search for any article that might have been forgotten, or intentionally left behind. But all was empty, except that here and there in a corner lay a little straw, indicating that the shepherds of the neighbourhood had sought shelter there, and probably made use of the inclosures as stables for their cattle.

The rather mournful thought involuntarily suggested itself, that perhaps the place had been depopulated by infectious diseases, for the drying up of water, that in many cases has occasioned the abandonment of Mexican towns and settlements, could not be the cause here, since the crystal stream of the Rio del Pescado flowed through a fertile plain, and far and wide around were to be seen the unmistakable signs of former cultivation by careful and industrious hands. I could trace the paths by which in former days the women and girls bearing earthen vessels on their heads had tripped over it, and the men had plodded along to their labour in the fields. On the small hills adjoining the houses had the grey old men of the town doubtless warmed themselves in the sun, and the boys carried on their noisy games; but now all was desolate and dead, no sound was to be heard within the forsaken walls, and no living creature was to be seen but two wolves, which left the ruins as I entered them, and remained prowling about outside. I sent a bullet after them, and the brutes disappeared, but ducks and snipes, startled by the report, rose screaming from the rivulet, and the sound echoed through the desolate buildings, and more slowly among the distant mountains, and then all was as drearily still as before. I went back by a circuitous path through the fields, which bore the marks of harvests reaped not long before; and I subsequently learned that the people of Zuñi come at certain seasons every year to the forsaken town to sow and reap on the fruitful lands around. It is not impossible that the last inhabitants may have gone over to the Zuñi Indians, and have preserved the custom of annual visits and pilgrimages to the graves of their forefathers, which they would be more likely to do, as the fields hereabout are of richer soil than those in the neighbourhood of Zuñi.

The cool autumn weather favoured our early departure, and the way led us to where the valley narrowed, and the ranges of mountains that lay to the north and south of us approached and appeared to touch. The abandoned town lay a little to the north, in which direction the rivulet also described a curve, and then hastened towards the place where the two rocky chains approached and formed a kind of gate. As soon as we had the pass behind us, the country opened again, but it was just as rocky and rugged as before, and more or less overgrown with cedars; and the road led us past the Zuñi River, whose bed at this place was marshy, and difficult to cross. On the northern shore, our train of waggons wound upwards between hills, until it reached a small grassy plain, where we intended to halt, in order to give our comrades who had gone to Fort Defiance an opportunity of joining the rest of the Expedition with the expected escort. We wished also at this place, where we should have to bid farewell to all trodden roads, to take a last opportunity of communicating with the United States, of sending reports and letters, and getting any that there might have been forwarded to us.

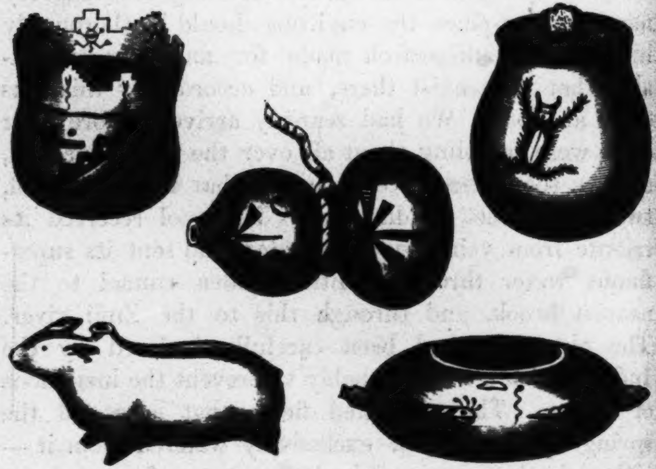
The town of Zuñi was three miles off, but we could not venture near to it with our large flocks of sheep and numerous mules, as the cattle of the Indians would certainly long ago have eaten every blade of grass near the town. We pitched our tents, therefore, near the road, and only a few yards from a brook that had worn itself a deep bed through a hill, and during heavy showers evidently dashed down in little cascades over blocks of stone. At the time of our arrival the hollows in the rocks only were filled with water, but these natural reservoirs abounded in fish — a sign that the water here does not dry up.

CHAP. V.

THE SACRED SPRING. — VISIT OF ZUÑI INDIANS. — EXCURSION TO THE MOUNTAINS. — THE BEAR SPRING. — RETURN OF MR. CAMPBELL FROM FORT DEFIANCE. — BREAKING UP OF THE CAMP AT ZUÑI. — RUINS OF OLD ZUÑI. — TRADITIONS OF THE ZUÑI INDIANS. — THEIR PLACE OF SACRIFICE. — PUEBLO DE ZUÑI. — RIO ZUÑI. — THE INDIAN GUIDES. — JOSÉ HATCHÉ AND JOSÉ MARIA.

On journeys such as ours it is customary that at every new camping-place the environs should be thoroughly investigated, and search made for anything remarkable that may exist there, and accordingly this was done at Zuñi. We had scarcely arrived before most of us were rambling about all over the neighbourhood, and we soon discovered a spring that formed a pool, twenty-five feet in diameter. The pool received its tribute from veins lying concealed, and sent its superfluous water through a little hidden runnel to the nearest brook, and through this to the Zuñi river. The tiny lake had been carefully inclosed by the Indians with a wall, probably to prevent the incursions of cattle. The cultivated fields that surround the spring appeared to be exclusively watered from it — although there was a rivulet so near; for numerous urns and vessels that had served for drawing and carrying water stood ranged at the top of the wall. Some of our party, attracted by the peculiar form of these vessels, wished to take some of the lighter ones with us; but the Indians would not allow even the order in which they stood to be disturbed, so that the idea occurred to us that the spring was in some way venerated by the Zuñi.

We found ourselves, as I have said, in a valley whose eastern limit was marked by volcanic hills and heaps of lava ; towards the south we saw the mountain ranges through which we had been passing, and westward a prolongation of this chain, terminating suddenly in a precipitous imposing mass of rocks ; towards the north, the valley gradually rose again to a moderate height, across which lay the road to the Indian town.



Earthenware Household Utensils of the Pueblo-Indians (Zuñi).

The news of the approaching arrival of our Expedition must have already reached Zuñi, and the Indians have been expecting us; for, even before we could get our camp in order, it was so filled with their brown forms, that there was not a single tent or a single fire without some of them. In appearance these new acquaintances were very like the other Pueblo-Indians we had met, but they showed themselves exceedingly curious about the purpose of our Expedition. The project of establishing a direct connection with the coast of the Pacific seemed to strike them wonderfully, and it was not long after they were informed of it, before Pedro Pino, the *Gobernador* of Zuñi, made his appearance in state costume with two of his chiefs, to introduce himself to us, and obtain further information concerning the direction of our journey ; but they brought us melancholy intelligence, which prevented our returning their visit. The smallpox was raging in their village, and had carried off many victims from amongst the helpless population. Pedro Pino told us that he had lost two nephews by this terrible malady, and that he and his people were in great sorrow, but that they hoped that He who had sent them the affliction would take it away again. They seemed all to be peaceful, friendly, well-behaved people ; and though the camp was full of them, there was not a single complaint of their having taken what did not belong to them, or made themselves in any way troublesome.

The wild mountain ranges that lay in sight towards the west awakened in many of our party a strong desire to get up a hunt through those dark ravines in which, according to the Indians, the grey bears frequently make their dens; and as a good-natured Zuñi man immediately offered to accompany us, and point out their haunts, the following day was appointed for the excursion.

The morning had scarcely dawned before Dr. Kennerly, Dr. Bigelow, and I, were in the saddle, and following our Indian guide, who was mounted on a very fine brown stallion. The cedar-wooded valley that extended to the foot of the mountains was soon crossed, and we had then to climb a steep ascent covered with rolled stones. The mountain side, on which we at last found ourselves, was connected with the elevated rocky plateau, on which lie the ruins of the ancient Zuñi. This rock formed the termination of the chain, and we might have found an easier path by riding round it; but we saved ourselves a considerable circuit by climbing the height, though the climbing down again was not quite without danger. When at last we reached the base, we found ourselves in another valley, inclosed towards the west by another rocky chain lost in the distance, but turning southward to meet another range, and approaching it so nearly as to leave only a ravine cleft by a mountain torrent, or rather the bed of a torrent, for at the time of our arrival these streams were all dried. Into this ravine we followed our Indian guide, who now spurred on his horse, passing many cultivated fields and some lightly-built houses, which seemed to be intended only for occasional occupation — at harvest time, and other seasons when there was work to be done in the neighbourhood. The woods, which looked like garlands, wound about the majestic rocks, became closer as we advanced, and at length met in the middle of the ravine, so that we seemed to be riding through an almost uninterrupted forest, and we could only catch a glimpse of the romantic rocky scenery, from a little opening that occurred here and there. At the season when the trees at the foot of the mountains, instead of naked branches show their bright green foliage, the contrast of their tints with those of the dark cedar woods must add much to the loveliness of the prospect. We had ridden on through the ravine till noon, without stopping, when the Indian turned suddenly into another narrower one towards the west, where the wood became too thick for riding, and we had to leave our horses behind and make our way on foot; and we had not been long following our silent guide, when he stopped at a small spring, and indicated to us that we had reached the spot where the bears were accustomed to come for water. A single glance served to satisfy us that our bear hunt would turn out to be nothing more than a long ramble, and that the utmost patience and the sacrifice of many a fine moonshiny night would be required, before we could hope for any further result. Doubtless, however, many a bear had left his hide at this spring, for the Indians had made arrangements there for the purpose so judiciously, that it must have been an easy thing for the hunter, lying safely in ambush, to send a bullet through poor Bruin's head, when he came for a drink. The spring consisted of one small hollow full of water, but not full enough to overflow, and the place was so blocked up with masses of rock that only one opening remained large enough for a bear to approach and put his head in. A few yards from this, in a suitable spot, a small hut had been erected, which had only an opening towards the spring, and through this the hunter crawls in, and there lies in wait. As soon as he has convinced himself that a bear is accustomed to make regular visits to the spring, he closes up the only opening to the water with a large stone, and then betakes himself to his hiding-place, which is only large enough to admit of his sitting crouched up to watch the opposite rock. When the thirsty animal comes to the well-known spot, and finds the way to the water blocked up with a stone, he sets himself to work to try and roll it over with his fore-paws, and in so doing gives the enemy an opportunity of taking a very deliberate aim, and killing him with a single shot.

This explanation was all we got in lieu of our promised hunt, and then we were fain to march home again, climbing the path which the bears must have used for centuries as a regular staircase, having fairly polished the rocky steps with their heavy clumsy paws.

After a rapid ride we got back to the point where the ravine opened into the broad valley, just as the sun was sinking behind the mountains, and then the Indian, urging his spirited horse to a gallop, left us to find our way as well as we could through the increasing darkness, either by crossing the mountain by the way by which we had come in the morning, or making a wide circuit round the rocky plateau. We unanimously declared for the latter plan, since the lofty castle-like masses of rock were clearly enough defined against the starry night sky to serve us as guides; whilst on the mountains, shrubs and precipices were so mingled together in one black shade that we could not trust our mules, and we had a still greater objection to going on foot. We jogged on, therefore, in a wide circuit round the rock; the stars glittered in the clear sky, and the north wind blew so sharp over the plain that our limbs were half frozen; but our mules pursued their way with immovable composure over the sounding stones, and brought us towards midnight to the glimmering camp-fire, about which some comrades were still sitting gossiping and smoking. They immediately called out to request some of the fine bear's meat we had brought back, but, alas! we had brought back nothing but stiffened limbs and remarkably sharp appetites.

During the day Mr. Campbell, and the other members of the Expedition, had arrived from Fort Defiance, not, however, bringing with them the promised military escort, but only the information that it was detained by the preparations for the march, and would not be able to leave for some days; and that it would then take the direction of the little Colorado, find out the track of the Expedition, and follow it in rapid marches. Concerning the route he had taken and Campbell's Pass, Mr. Campbell gave us a most satisfactory report. The pass lies almost due west from Mount Taylor, and the access to it is by a fine broad valley, three miles wide at its narrowest part. The northern side is formed by high red sandstone rocks of the most various forms; the southern by the declivities of the Zuñi mountains. The Zuñi group of the Sierra Madre turns in a north-westerly direction from the Camino del Obispo, and ends at this pass. The Rio Puerco of the west rises eastward of these mountains, consequently not far from the chief sources of the San José, passes round the highest of them, and then flows towards the Colorado Chiquito. So ran Mr. Campbell's report, founded on an examination which, though slight, was sufficient to make Campbell's Pass appear the most suitable passage.

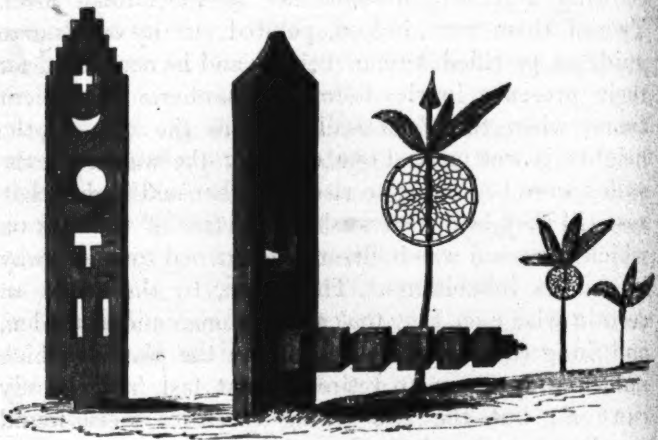
A third day was spent in the camp, and employed in negociating with the Zuñi Indians for a guide to the Little Colorado, which was so much the more desirable as after leaving Zuñi we should have before us only inhospitable deserts and wildernesses, through which lies no path but the track of the Indian or of the wild beast.

Pedro Pino the Gobernador, who always came to the camp attended by his two chief warriors José Hatché and José Maria, had promised us guides, but the fulfilment of his promise appeared to depend on a council held among the Indians; and since we could get no decisive answer about it, we determined on the 25th of November to cross the plain (19) on which the Pueblo de Zuñi lies, and pitch our camp near a spring at its western extremity. The indecision of the Indians was not, however, occasioned by any want of friendliness, far less by any hostile intentions; for they were much pleased with the object of our Expedition, and showed themselves so by their obligingness in many little things, and their readiness to answer all our inquiries concerning their mode of life and the physical character of the country. It needed very little persuasion, too, to induce Pedro Pino, and other persons of distinction in the tribe, to present themselves in warlike full dress to have their portraits taken. Fine athletic-looking fellows they were, who did not look at all the worse for their fantastic decorations, or even for the stripes of red paint on their visages. On ordinary occasions their costume did not differ from that of the inhabitants of other Pueblos, and there were many traces among them of fashions introduced by the Spaniards.

On the 25th of November, therefore, the Expedition left the camp before Zuñi, and, accompanied by a number of Indians, proceeded towards the Pueblo, whilst I and several of the party, with Lieutenant Whipple at our head, went off for an excursion to the ruins on the rocky plateau. An Indian was soon found to serve us as a guide, without whom it would have been very difficult to find a way up the precipitous walls of rock that rise sheer 800 feet above their base. The path, which was not practicable even for mules, exhibited many of those remarkable formations that the weather and the atmosphere will often effect in the course of time in a yielding kind of rock. Sometimes there appeared dome-like cupolas or regular arches, sometimes strange chasms and columns, the latter not unfrequently showing a striking resemblance to the human form. Two of them were, indeed, pointed out by our Indian guide as petrified human beings, and he accounted for their presence in the following manner. In ancient times, when the Zuñi still lived in the city on the heights, it was noticed one day that the waters in the valley were beginning to rise. Higher and higher they rose till they began to wash the surface of the rock on which the town was built, and threatened to wash away it and its inhabitants. Thereupon, by the advice of certain wise men, they took a young man and a maiden, and flung them from the rock into the waters, which immediately began to retire, and at last had entirely run off; but the two young sacrifices were found standing between the rocks and turned to stone.

It does not require much imagination to trace the resemblance to the human form in the columnar fragments to which this old myth refers; and, indeed, it was probably this resemblance that gave the first occasion to the story.

The platform itself was not so dreary as it looked from below, for cedar bushes managed somehow to grow on the sterile stony ground, and partly hid the ruins, which consisted chiefly of remains of walls and foundations. We also found some places of sacrifice or altars, which had the appearance of being still in use, as neatly-cut boards were fixed in the ground around them in a certain order, as well as little sticks decorated with feathers, and very curiously-made articles and figures of wicker-work. Heaps of things of the same kind in a decaying state also lay about, and seemed to indicate that the decorations were from time to time renewed by Indian visitors.



Place of Sacrifice of the Zuñi Indians.

We could learn no further particulars concerning them; but the opposition made by our Indian guide to our proposal of carrying some of them away as memorials showed us the importance attached by the Zuñis to these relics. Just as we were going away our guide took a little flour out of a bag, placed it in the hollow of his hand, and then turning towards the place where we had been standing, blew out the flour into the air, as if by way of effecting some kind of purification of the spot. He stated that he did it to prevent disaster to the corn.

The present Indian town — Pueblo de Zuñi, rises from a little height above the Zuñi river, which carries its waters to the Colorado Chiquito. Its houses are built like those of Santo Domingo, in the terraced style, with from three to seven stories, one above the other, each smaller than the one below it, so that each possesses a small fore-court or gallery; but the streets between the houses are very narrow, and sometimes entirely covered by building over. There is a Roman Catholic church in the town, built, like the houses, of white bricks, and very simple in its interior decorations, having only a few bad pictures and worse statues round the walls.

The number of inhabitants may be reckoned at from 1800 to 2000, but the small-pox has committed such terrible ravages amongst them, that it is difficult to make any close estimate. It is said that there are some Albinos among the Zuñi Indians, but we could not obtain a sight of them for fear of the small-pox, for though some of our party had already been attacked, and we had of course to carry them with us in the waggons, it was still thought advisable for us to keep clear of the Indian dwellings, from which the malady threatened us in its most fearful form.

The Zuñi Indians are more favourably disposed to civilisation than those of any of the other Pueblos. They breed sheep, keep horses and asses, and practise agriculture on an extensive scale. The harvest was over when our Expedition passed, but in all directions fields of wheat and maize stubble, as well as gourds and melons, bore testimony to their industry, and they also raise in their gardens beans, onions, and capsicums; the latter especially, immense quantities of which were hanging to dry in garlands all over the houses. Besides agriculture and cattle breeding, they, or rather their women, are skilful in the art of weaving, and, like the Navahoes, manufacture durable blankets. The grinding of the corn to flour is also regarded as women's work, and is performed with no other machinery than one stone to rub against another placed aslant, and there is a forge in the town, at which Indian hammers and tongs are seen at work.

The Pueblo—with its terraced houses, elevated streets, numerous ladders, and the figures climbing up and down them, the tame turkeys and the eagles sitting about on the walls — presents an interesting picture, and appeared still more attractive when we looked back on it across the wide plain now stripped of its harvests, and with the background of grand masses of rock and blue distant mountains. The Rio Zuñi coming from the south-east, attains in the neighbourhood of the town a breadth of 200 feet, but the water was so low when we were there, that it appeared a mere brook of twelve feet broad, and a few inches deep. We did not follow the course of the stream, which was north-west, but turned more to the north, as we intended to pass the night near a spring at a low rocky chain that the Indians had pointed out to us. It was but an eight mile march, and we arrived early in the afternoon at a wild ravine of red sandstone, in which the spring gushed forth, and there it was settled that we must remain,

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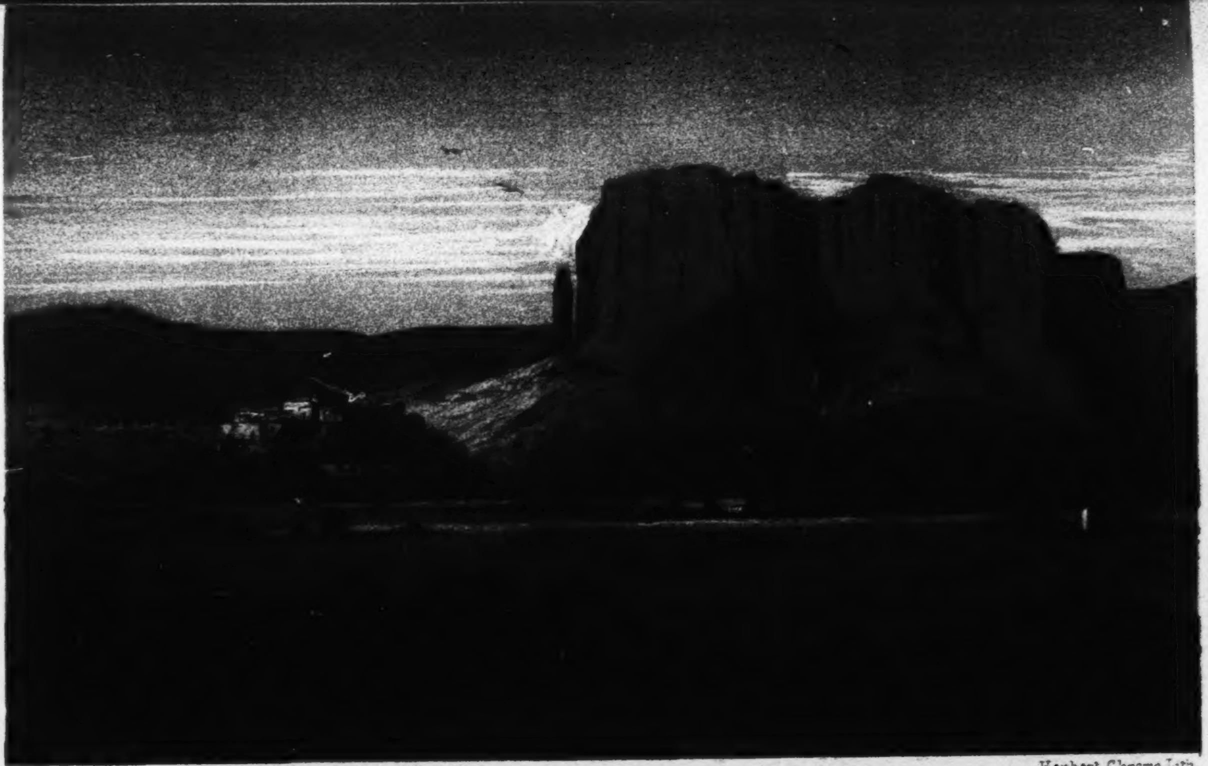

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ZÚNI, NEW MEXICO.

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not only for the night, but the next day also; partly that we might not get too much the start of our military escort, and also to give the Zuñis time to make up their minds as to whether they would furnish us with guides; for the services of natives who possessed an intimate acquaintance with their own hunting-grounds would be of more avail to us now, than the general knowledge of the most experienced trappers. We had now the great chain of the Rocky Mountains behind us, and the country appeared to open and promise rather more convenient travelling, but it was not so in fact. As far as the eye could reach there lay before us low cedar woods which, though not very close, would not allow of the passage of the waggons without the continual use of the axe. This, at least, was the report brought by our guides, who had been sent on to reconnoitre, and we seemed therefore to have before us the prospect of a very slow and tedious progress.

The sky, which had been long bright and cloudless, now (on the 25th of November) became overcast, and before night the rain began, and did not leave off for four-and-twenty hours. A day of rest, that is also a day of rain, is not an agreeable incident of a journey of this kind, for though there is some comfort in finding yourself under the protecting canvas, and before a glowing fire, you would much rather be making use of the opportunity of a halt to go rambling about. Bad weather on the march is such a customary thing, that you seldom notice it further than by mourning over the necessity of cleaning the fire-arms, which have got wet. The day passed in a drearily quiet manner, but towards evening its monotony was relieved by the arrival of a deputation of Indians, who came with the welcome intelligence that on the following morning, very early, José Hatché and José Maria would be with us; and moreover, would show us a way through the woods where the waggons could pass without help from the axe. In a debate that Pedro Pino had held with the wise men of the town, it had been determined that the enterprises of the Americans, which tended to establish more direct and rapid communication between the Pueblos and the white settlements, were by all means to be promoted; and for this purpose José Hatché was to guide our Expedition by the shortest and best route to the Little Colorado, whilst José Maria was commissioned to proceed, in company with another Indian, in a north-westerly direction to the Moqui Indians, in order to obtain from them guides for the next portion of the journey, namely from the Little Colorado to the San Francisco Mountains.

In pursuance of this arrangement, we broke up our camp in all haste on the 27th of November; the Indians did not make us wait for them, and betaking themselves immediately to the head of the procession, led us a little way back on the route by which we had come, and then in a south-westerly direction to the Rio Zuñi, where they advised us to water the cattle once more, and also to lay in a stock of water for ourselves, as we could not hope to find any more till the following evening. We did so, and wended on our way, and soon found ourselves amidst hilly woods, where the exact local knowledge of the Indians enabled them so well to take advantage of every little opening, that we scarcely ever had to use the axe. The atmosphere was again clear, but an icy wind was blowing, and when towards evening it went down, a frost set in.

Our camp was pitched in a treeless valley, but the gently rising hills that surrounded it were covered with fresh and dry cedar-wood, the latter of which makes most admirable fuel. We built up huge piles of it, and the comfort afforded by its delightful blaze, as well as a finer night than we had enjoyed for a long time, raised the spirits of the whole company.

We sat gossiping and smoking till past midnight, talking, as usual, of the passes of the Rocky Mountains, and Colonel Frémont. On this evening, indeed, Colonel Frémont formed the almost exclusive subject, as we had now reached the degree of longitude under which he had chiefly displayed his talents and energy, and were approaching the country in whose conquest he had played so important a part. I tried indeed myself to bring the conversation back to the topic, and the information I obtained from one and another I have here thrown together in a more connected form.

CHAP. VI.

COLONEL FRÉMONT'S THIRD JOURNEY, AND HIS CONTESTS WITH THE NATIVES.—LIBERATION OF CALIFORNIA.—PETRIFIED WOOD.—THE LOW SALT LAKE.—RUINS OF ANCIENT SETTLEMENTS.—NAVAHOE SPRING.—NAVAHOE INDIANS.—FIRST SIGHT OF THE FRANCISCO MOUNTAINS.

In the spring of the year 1845 Colonel Frémont fitted out his third expedition to find the most favourable route for a communication between the United States and California, and to examine the great basin known as the Utah territory. He wished also, on his own account, to make himself thoroughly acquainted with California, for he was meditating a plan to bring his family and make a new home on some one of the beautiful spots on the coasts of the Pacific. The summer had mostly passed in the examination of the sources of the great rivers in the Rocky Mountains, so that the winter had already set in when he reached the great Salt Lake, and pitched his camp at its western extremity, on the borders of a vast waterless desert. This arid plain, where there was not a trace of vegetation, appeared to be avoided by wild beasts as well as Indians; not one of the natives could be seen, and if they had been present they would not have been of much use, for their intellectual grade is too low even to admit of their serving as guides.

Frémont succeeded in crossing the seventy miles of desert, with his companions and his cattle, and found a spring, just in time, among some wild naked rocks on the opposite side. Here he divided his expedition into two, sending one half of his party, under the command of a certain Walker, a celebrated and experienced trapper, towards the south, with orders to go southward round the Sierra Nevada, whilst he himself, with ten men, whites and Delaware Indians, undertook to find his way through the deserts in a north-westerly direction.

Although the winter was by this time far advanced, and he met with all possible hindrances in these mountain regions, he managed to get through the passes, and reach Sutter's Farm on the western side of the Sierra Nevada, before they were completely blocked up with deep snow. At Sutter's Farm Frémont laid in a fresh stock of provisions, and set off again in the middle of December, in order to meet the rest of his party, according to agreement, in the valley of the San Joaquin.

In a few days he found himself again in the mountains, where he noticed that he was perpetually surrounded by hostile Indians, and at one place where he came upon fresh tracks of a numerous troop of the savages he sent forward four of his men, two of them Delaware Indians, to reconnoitre the ground. In the evening Frémont and the rest reached a suitable camping place, and were just on the point of unsaddling their horses when a distant Indian yell caught their ears, and acquainted them with the fact that the four hunters they had sent on were attacked. In an instant the party were in their saddles again, and leaving four men to guard the camp, Frémont galloped with the eight others in the direction whence the sound had proceeded, where they supposed the struggle to be going on.

They had hardly gone half a mile when they perceived several hundreds of Indians storming up a small hill, at the top of which the four hunters had intrenched themselves behind some bushes and masses of rock. It was evident that they had come upon the Indians unexpectedly, and the experienced trappers had sprung from their horses and thrown themselves into this natural fortress, whence they could defend themselves with more effect. The Indians had closely surrounded them, and were on the point of seizing the horses when Frémont and his men appeared; and his shout, as he rushed up the hill, was answered by the two Delawares (who immediately plunged down to save their horses), as well as by the report of the two rifles of the two white hunters, who had taken aim at the foremost of their assailants, and sent him down the hill again with a shattered skull.

Taking advantage of the surprise of the savages, Frémont got his party together again, and made the best of his way back to the camp, fearing that the four men he had left might be attacked also. The Indians followed them; but kept out of range of their rifles, and only expressed their feelings by loud defiances and vituperation. After this Frémont continued his investigations, and got into a wild region of the mountains, where he was completely snowed up, and only barely saved the lives of his men, losing all the cattle on which he had depended for food. At last he met with Walker, and turned towards the valley of the San Joaquin, where he left his people, whilst he himself took the way to Monterey, which at that time belonged to Mexico, to present himself to the authorities, and with their consent increase the strength of his party.

Without the least suspicion he was proceeding on his way when he was suddenly stopped by a Mexican officer, who delivered to him a despatch, couched in very hostile terms, from General Castro, the commanding officer of California, ordering him to quit the country immediately. Frémont declared that he would not obey the order, as he did not mean to allow himself to be driven back into a dreary desert from which he had just escaped; and thereupon he withdrew with his party to a hill called "Hawk's Peak," erected upon it with felled trees a kind of fort, and set up the banner of the United States. General Castro came with a military force and placed himself in the plain beneath, so near that Frémont and his little party of bear hunters could almost look into every tent; but instead of a fight there came a proposal from General Castro for Frémont to join him, in which case he offered himself to throw off the Mexican yoke, and hoist the standard of independence.

Frémont did not comply, but left his fortified position, and without being further molested took his way to Oregon, to seek there for a new route to the Wahlah-math settlements, and the regions near the mouth of the Columbia River.

In the beginning of May, 1846, he found himself at the north end of the Tlamath Lake, and there he was met by two messengers from Lieutenant Gillespie, of the United States Marines, who had been sent to him with letters with an escort of six excellent mountain hunters, but was now, with four of his men, in a situation of great distress in the depths of the wilderness. Colonel Frémont immediately set off to his rescue with ten of his best men, amongst whom were four Delaware

Indians, and after a long search at last found Lieutenant Gillespie and his party. The Colonel remained half the night sitting by the fire reading the letters and instructions brought to him; the men, worn out by excessive fatigue, were all fast asleep, and Frémont's fire was burning very low; it was but the second night during all his journeys when, in consideration of the exhaustion of the people, he had set no watch. Carson and a man of the name of Owen, who slept near him, were suddenly awakened by a peculiar sound. "What's the matter, Basil?" called out Carson to the hunter who lay nearest; but Basil did not answer, for his skull had been cleft by the tomahawk of a Tlamath Indian; and at the same moment the groans of another of the men, mortally wounded, caught Carson's ear. With a loud shout he awakened his companions, and springing up rushed towards the savage foe. The Delawares had seized their arms at the first sound, and were immediately engaged with their assailants, fighting "like wounded bears;" one especially, who kept the enemy off with a discharged musket until he fell pierced with numerous arrows. Frémont, Carson, and four others sprang towards him, fired among his assailants, and fortunately killed their chief, and when the Tlamaths saw their leader fall they got into confusion and hastily drew back.

Frémont and his party remained till daylight on the watch, with their weapons cocked and ready for an attack; but they were not again disturbed. As soon as they had buried the two whites and their Indian companion who had fallen in the fight (leaving the Tlamath chief, after he had been scalped by a wounded Delaware, to lie where the bullet had stretched him), they set out on their return to California, and after two days' journey came upon a large village of Tlamath Indians, which could muster above a hundred warriors. Carson had ridden on with ten men, and had been observed by the savages before there had been time for Colonel Frémont and the rest to come up, so that he had no choice but to take advantage of the first surprise and attack the village. The little party threw themselves on the savages in the most determined manner, killed several of them and put the rest to flight; but, embittered as they were, they spared the women and children, though they burnt the village and even the fishing nets.

On the same day a second skirmish took place, in which Carson nearly lost his life. He had galloped a few yards in advance, when he observed an Indian fitting his arrow to the string and just about to let fly. Carson pointed his rifle at him; but the weapon missed fire, and the next moment he would have had the Indian's arrow in his breast, but that Frémont rode at the savage and cut him down.

It was amidst such scenes as these that Frémont was carrying on his work in that wild region, when he was induced by letters brought to him to change his plans, and instead of going on to Oregon to return to California.

In May, 1846, he reached the valley of the Sacramento, and found the country in a state of great excitement from a peril that threatened it, and which could only be averted by immediate help. There was a design in existence of murdering the Americans, destroying their settlements on the Sacramento, delivering California over to the English, and placing the administration of public affairs in the hands of British subjects.

The Americans sent deputation after deputation to Frémont's camp, described the danger in forcible terms, and informed him that General Castro was on his march, and that the natives would be incited to robbery and murder. Thereupon Frémont consented to place himself at the head of the settlers, to take the command in the approaching struggle, and if possible to save the country. The Americans came from all directions to his camp, bringing with them arms, horses, and munitions of war, and joyfully placed themselves under his orders. In thirty days after this the whole of North California was freed from the Mexican yoke, General Castro on his flight towards the south, the American population relieved, the plans of the British party frustrated, and the independence of the country proclaimed. The first step towards the incorporation of California with the United States had now been taken; but Frémont, who at that time knew nothing of the war that had broken out between Mexico and the United States, had acted on his own responsibility, without any orders from his Government. He continued his operations, nevertheless, formed a junction with Commander Stockton, and completed the subjection of California in January, 1847. Although, from the great distance between Washington and California, and the difficulty of communication between them, it would have been impossible for Frémont in the decisive moment to have obtained Government sanction for his proceedings, and he had been compelled to come forward only by unforeseen occurrences, and the exigencies of the moment—his having acted on his own authority had created him many enemies among his comrades, as well as his superiors in command, who had followed him to California, and the latter threatened him with a court-martial. To this he made a respectful but firm reply; but he considered it necessary to adopt a different tone towards his equals, and he fought a duel with a Colonel R. R. Mason, with double-barrelled pistols.

The American population, nevertheless, hailed him as a deliverer, and they showed their confidence in him and their recognition of his services, by joyfully electing him as their governor.

The adverse circumstances, occasioned partly by the disputes between the naval and military commanding officers, and partly by persons ill-disposed towards himself, gave Frémont much trouble during the first half of the year 1847; and in the June of that year he left California, with General Kearney and his division, and returned by the land way to the United States, whither he had been summoned by orders from Washington. In the middle of August he reached Fort Leavenworth on the Missouri, where he found an order for him to proceed to Washington under arrest. In pursuance of this order he went down the Missouri, and arrived in a few days at St. Louis, and there the most considerable inhabitants waited upon him, and invited him to a public dinner to be given in his honour; but though deeply sensible of the kindness of this reception, he did not think it right in the position in which he stood to accept the invitation; but declined the honour, and continued his journey in all possible haste to Washington, where he arrived on the 16th of September, 1847, and immediately presented himself to the authorities. At his own request a court-martial was appointed, to whose judgment and decision his whole life and actions for the last two years was submitted. The charges against him were—1st, Mutiny; 2ndly, Disobedience to the orders of a superior officer; 3rdly, The infringement of military order and discipline. The inquiry began on the 2nd of November, 1847, and was closed on the 31st of January, 1848, when Frémont was declared guilty on all three counts, and in consequence of the decision dismissed the service.

This was one of the most remarkable trials that had ever taken place in the United States, and its course was watched by almost every individual citizen with the greatest interest. The offences laid to the charge of Frémont had originated in the circumstance that there were in California two generals, each of whom believed himself in possession of the supreme command, and from each of whom he had received orders simultaneously; and on this being taken into consideration the sentence of the court was laid before President Polk, with a view to its mitigation. The President softened it so far as, on account of Frémont's previous services, and of the recommendation of the majority of the members of the court, to permit of his remaining in the service; but Frémont, in the consciousness that he had deserved no such sentence, and consequently did not need the act of mercy, requested his dismissal, and after some delay received it on the 15th of May, 1848.

At the age of four-and-thirty, therefore, he had terminated his military career, but he had left his name most closely interwoven with the history of the geographical, scientific, and political development of the North American continent, and at the same time won for himself high popularity among his countrymen. The proofs of sympathy and respect that reached him from all quarters served to alleviate the bitter feelings that the recent occurrence had awakened: he began once more to form plans for the advantageous application of the knowledge and experience he had gained, and, as may be supposed, those regions of the Far West, where he had learned and suffered so much, were those that had the greatest attraction for him.

During his stay in California, he had often entertained the idea of purchasing a tract of land known by the name of Mariposas, the value of which had become evident to him during his third expedition; but before allowing himself to settle down there in peace, he had set himself the task of demonstrating the importance of laying out a road between the Eastern States and California, and with this view he fitted out an expedition at his own expense, at the head of which he proposed to make the journey to the Pacific Ocean once more, and then form a new home for himself and his family. He purposely chose the winter as the time of this journey, in order to make himself acquainted with all the obstacles that, in the most unfavourable time of year, would have to be conquered in the making and maintaining a public high road. His sufferings, and those of his brave companions, in the course of this journey, were terrible; one after another fell by his side, in the struggle with the elements and with famine, and the survivors were compelled to satisfy their hunger on the flesh of their dead companions. Our guide, Leroux, was at his home in Taos, when the last remnants of the unfortunate expedition sought a refuge there, and it was from him I subsequently learned the particulars of this journey.

On the following morning, the 28th of November, when we broke up our second encampment westward of Zuñi, the weather was dull and rather milder, though there had been a sharp frost in the night. The circuitous paths that our train of waggons had to follow through the woods, gave us time to make excursions in all directions, but, with the exception of some small birds for our collection, we found little to repay our exertions. Fossil-shells lay about on the slopes of the hills, as well as pieces of petrified wood that gleamed with the brightest colours, and when José Hatché, our Indian guide, remarked that we picked up some interesting specimens, and carried them away with us, he advised us not to give ourselves the trouble, as we should soon come to a place where there were great blocks of "stone wood" that we should not be able to move, and from which we could knock off cart-loads if we liked. As we were accustomed to the exaggerations of Indians, we paid little attention to what he said, until after the lapse of a few days we were reminded of it by finding a real petrified forest.

We had to contend until noon with the difficulties of a continually ascending country, and then we reached a spot where our progress was checked by a rugged and steep declivity; the high bank being formed, not of rock or rolled stones, but of sandy soil, rent and undermined in all directions by the rains. From this point we had a wide prospect over a low grassy plain, bounded to the west and north by naked hills and uplands, and to the south by low cedar and fir-woods. The whole scene wore a dreary desolate aspect, and far as the eye could reach there was nothing to enliven its utter loneliness. At the western extremity of this plain we should, according to the Indians, meet with good water; and a few miles before that with a pond where the water was brackish; but before we could even get down into the plain, our labourers and waggoners had to cut with pickaxes and spades a path, by which the waggons might be let down one after another, and this caused a very long delay; but at length we were all assembled, and then *en route* again, moving in a straight line along the southern edge of the wood;—nothing disturbed the monotony of our progress, and the train stretched out longer and longer, as parties of the weary men and thirsty cattle lagged more and more behind.

The sun had already sunk behind the hills, when the foremost of the procession approached the salt pond, which lay some hundred yards from our road and from the wood. Without a guide we should certainly never have discovered it, for there was not the smallest swelling or sinking of the ground, or any richer vegetation by which the presence of water might have been surmised. The pond was more like the crater of a volcano than anything else, for it lay at the bottom of a deep funnel-shaped hole, where, looking over the precipice, we could see it gleaming below. It could not be less than two hundred feet below the surface, and while the top of the opening was about two hundred feet in breadth, it contracted so much as it went down that at the surface of the water it was scarcely sixty. A narrow path wound round the inside of the steep clay sides of the funnel down to the water, and offered the only possibility of a descent, and even by this great care was required, as a slip or a stumble might have been dangerous. The animals could only be driven down in small numbers at a time, for the water was only accessible to them at one place, and there they sank up to their knees in a morass.

It was not possible to make even an approximate estimate of the depth of this mysterious looking lake, but the dark colour of the water, in which some few crippled cotton-wood trees were reflected, showed that it was deep; and of the long reeds that grew but a few feet from the bank, we could see only their tops above the surface. The water had exactly the same taste as that found eastward of the Rocky Mountains in the gypsum region, and seemed to be so much the more agreeable to the animals. Herds of black-tailed deer and antelopes showed themselves in the twilight, and alarmed our people, who took them for a troop of Navahoe Indians. Probably the creatures wished to get down to the lake, but, being disturbed by our presence, passed on farther to the west.

The evening was again as clear and bright as the preceding, but we lacked the dry wood that had made us so comfortable before; for the close cedar thicket offered us only green juicy logs that crackled and flickered without diffusing the smallest warmth. We took refuge in our blankets, therefore, at an earlier hour than usual, and soon there reigned over our camp the profoundest stillness, broken only by the rough neighing of a mule, or the distant howl of a wolf in search of prey.

From this remarkable lake, or pond, we passed on in a more northerly direction, and had scarcely gone six miles before we came to the fresh spring that had been mentioned, and immediately made preparations for resting and passing the night there. The water was gushing out of the ground in several places, but instead of the various runnels uniting into a brook, they overflowed the nearest low ground and transformed it into a marsh, in the small pools of which, however, we found abundance of excellent water for ourselves and our cattle. Some fragments of ancient pottery, lying in the vicinity of the spring, induced us to search for further traces of the former inhabitants of these regions, and on a rising ground we discovered the foundations of an old town. The clay walls that had been erected upon them appeared to have been washed away centuries ago, and the stones protruding from the earth, and the masses of broken pottery, afforded the only indications of the population that had passed away. The dry heath and bushes yielded us on this evening scarcely fuel enough to prepare our food with, and while we pulled our wrappers more closely around us we cast many a longing glance over to the dark cedar woods.

Just as it had grown so dark that we could scarcely distinguish one object from another, we were startled by the cry of "Navahoes!" passing through the camp; but it appeared there were but two of this robber tribe, who had cautiously approached us to reconnoitre.

José Hatché and Leroux immediately began a talk with them, and, at Lieutenant Whipple's desire, invited them to alight from their horses and go into his tent to hold a conversation with the "white Capitano sent by the great grandfather in Washington." The two Indians, however, drew back shyly, and carried on the dialogue with José Hatché at some distance. According to what they said, they were somewhat in fear of him, as he had come out of a town where the small-pox was raging; and when they learned that we, too, had some cases in our camp, their fear increased so much that they disappeared very soon. The Indians have suffered so severely from this malady that their terror was not at all surprising*, and it is very possible that we may have had our small-pox patients to thank for remaining unmolested by the Navahoe Indians during our whole journey through their hunting-grounds.

On the 30th of November we left Navahoe Spring, as it is called, and crossed an undulating country, which, by its barren sands and almost total absence of vegetation, well deserves the name of a desert.

Deep ravines and dry beds of streams intersected our path and greatly obstructed our progress; woods and trees retired further and further from our sight, and at last disappeared altogether, and the prospect on every side became most forlorn. Before us, in the blue distance, we could distinguish the peaks of a range of high mountains, which we ascertained to be those of San Francisco,—gigantic extinct volcanoes,—towards which lay our route; but we had many a long and weary day's march before us, and many an obstacle to overcome, before we could hope to slake our thirst at the cool waters of the spring that gushes out at the foot of the principal mountain, Leroux Spring as it is called, from our guide, who was its first discoverer.

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* It is said that the small-pox was first introduced into this country in the time of its conquest by Ferdinand Cortez by a negro attendant of this general, and that the malady created the most fearful devastation among the Aztecs.

Alexander von Humboldt found a pictorial representation of its prevalence in Mexico as an epidemic in the year 1538, in the copy of the Aztec MSS., formerly belonging to the Archbishop of Rheims, and now in the Paris Library, "Codex Telleriano Remensio; Gerocylficos que usavan los Mexicanos." MS. of 1616. See Alexander von Humboldt's "Vues des Cordillères, et Monumens des Peuples indigènes de l'Amérique," plate 56, f. 3.

We had been much struck by seeing many of the Zuñi Indians wearing precious stones, especially fine large garnets, as ornaments in their ears; but all we could learn about the matter was that they got them from the region of the setting sun, and we had been in a great state of excitement to make out the precise locality of the ground that bore this harvest of gems. Now at length this good fortune fell to our lot, and we discovered the spot about which these stones, as well as those showed to us in Albuquerque, were probably found. We came to a tract of lowland, scattered over with a number of hillocks, made by large ants, and consisting entirely of small stones. As the ants had withdrawn themselves deeper into the ground on account of the cold, we could scrape away these hillocks without being annoyed by them, and the bright sunshine favoured our search. Wherever a ray fell on a precious stone it showed a red or green sparkle, and we needed only to stoop to pick up a garnet, an emerald, or a ruby; but none of them larger than a pea, probably because those of more considerable size had exceeded the power of the ants to move.

We had little time, however, for this treasure-seeking, for stern necessity compelled us to move on, that we might be able to get water again before night; and to linger behind, and perhaps lose sight of the train of waggons, was by no means advisable, as we could not know whether the Navahoes were not lying in wait for the opportunity of plundering and even murdering stragglers.

CHAP. VII.

RIO SECCO. — THE PETRIFIED FOREST. — RIO COLORADO CHIQUITO. — MELANCHOLY ACCOUNT OF THE MOQUI-INDIANS.—CHEVELON'S FORK. —STAMPEDO OF THE HERD OF MULES.—ARRIVAL OF LIEUTENANT FITZBALL WITH THE ESCORT. — A RECONNOITRING DIVISION SENT OUT. — SLOW PROGRESS OF THE EXPEDITION. — RUINS ON THE COLORADO CHIQUITO. — THE CASAS GRANDES ON THE RIO GILA. — RIO SALINAS, AND IN CHIHUAHUA.—COMPARISON OF THE RUINS ON THE THIRTY-FIFTH PARALLEL WITH THE CASAS GRANDES.

ON the 2nd of December, as we were toiling along, over or through the loose sandy soil, having just quitted the dreary valley where we had passed a very uncomfortable night, we found our progress arrested by a broad ravine that it was impossible for the waggons to cross, so that the whole procession had to turn to the south to seek for a way down, though it extended north and south as far as the eye could reach. Some antelopes that had leaped down by a shorter way tempted Mr. Campbell, Dr. Kennerly, and myself to follow them, though that was certainly no easy task, for the banks were excessively steep and composed of red sand mingled with masses of gypsum, and rent in all directions by the rains. The loose earth gave way continually beneath the hoofs of our mules, but between slipping and scrambling we got somehow to the bottom, where we found the ground so much broken by torrents of rain that our progress became still more difficult.

Immense masses of water must sometimes rush through this valley, though at the time of our arrival we found only the narrow dry bed of a stream, showing here and there a pool of bitter brackish water, where the sandstone rock had prevented its trickling through. The valley is called by the Americans the Rio Secco, or Dry River, though at this part it might deserve the name of the Petrified Forest. (20)

As we proceeded further we really thought we saw before us masses of wood that had been floated hither, or even a tract of woodland where the timber had been felled for the purposes of cultivation. Trees of all sizes lay irregularly scattered about, and amongst them stumps with the roots that had been left standing; some of them were more than sixty feet long, and of corresponding girth, and looking as if they had been cut into regular blocks, whilst broken branches and chips lay heaped up near. On a closer examination we found they were fossil trees that had been gradually washed bare by the torrents and had broken off by their own weight, and that, singularly enough, in logs of from one to three feet in length. We measured some of the largest trunks, and found one of five feet in diameter. Many of them were hollow — many looked as if half-burnt, and they were mostly of a dark colour, but not so much so as to prevent the bark, the burnt places, the rings, and the cracks in the wood from being clearly discernible. In some of the blocks appeared the most beautiful blending of agate and jasper colours; and, in others, which had yielded to the influence of the weather and fallen to pieces, there were bits so brilliantly tinted that if polished and set they would have made elegant ornaments; others, again, had not yet lost the original colour of their wood, and looked so like decaying beams of deal that one felt tempted to convince oneself, by the touch, of their petrifaction. If you pushed these they fell into pieces that had the appearance of rotten planks.* We collected small specimens of all these various kinds of fossil trees, and regretted that as our means of transport were so small we had to content ourselves with fragments, which certainly showed the variety of the petrifaction, but not the dimensions of the blocks.

We sought in vain for impressions of leaves and plants, and the only thing we found besides the trunks and blocks were the remains of some tree-like ferns, that we took at first for broken antlers of stags. We had to renounce our intention of making our way further to the south, along the river Secco, for we found its bed piled up more and more wildly with masses of earth and stones, and saw new chasms opening across our path. It was not without difficulty that we again made our way out of this rugged valley, and followed the track of our waggons along the high bank; but when, after a brisk ride of fourteen miles, we reached the encampment we found our tents pitched on a spot where it was evidently possible to cross to the other side of the Rio Secco; and we therefore proposed to undertake the task on the following morning with renewed strength. The evening, as usual, was cold, and so much the more disagreeable, as we were in want of fuel; for though there lay near us what looked like enormous masses of wood they were of the kind that one could only get a spark out of by means of a steel.*

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* On my arrival in New York, in the latter days of April, 1854, I immediately sent an exact description of this Petrified Forest in a Report to the Geographical Society of Berlin. (31)

On the 2nd of December we managed to get down into the dry bed of the river—a laborious task, but effected without accident; and we then pursued our way along it for some distance further. All the way we went we saw in the side ravines, great heaps of petrifactions gleaming with such splendid colours that we could not resist the temptation to alight repeatedly and knock off a piece, now of crimson, now of golden yellow, and then another, glorious in many rainbow dyes.

When we reached a suitable spot, we left the bed of the Rio Secco, and passing six miles further to the south, found ourselves on the Rio Puerco of the west, a stream that flowing from the north-east falls into the Colorado Chiquito. We followed the Rio Puerco at some distance, as the nature of the ground allowed, and at length reached the Colorado Chiquito, whose course was to indicate the direction of our route for some time. Here again we came upon ruins, which, though now barely recognisable, clearly showed that this region must at one time have been thickly peopled. The Colorado Chiquito is but a small river, but rolls on a considerable quantity of water with great rapidity towards the Rio Colorado of the west; it rises on the northern declivity of the Sierra Mogoyon, and, flowing at first towards the north-east, receives the two small streams of Dry Fork and Burnt Fork. At the point where it is joined by these, it suddenly changes its course, and turning to the north-west, forms a confluence with the Zuñi river, and the Puerco of the west (34° 53′ N. L., 110°·00 W. L. from Greenwich), and then keeps this direction till it reaches the Great Colorado.

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* I cannot take upon me to say whether these masses of wood exist in a peat bed, such as in Europe belongs to the Tertiary series.

We now again saw some cotton-wood trees before us, the first we had seen for a long time; they seemed to mark the course of the river for a considerable distance, besides forming small light woods in the valley, which varied continually in breadth, as the barren stony hills that inclosed it advanced or receded. Fertile soil, quite capable of cultivation, lay on both sides of the river, and more and more ruins, in such quantities as to afford ground for the conjecture that wandering races of a remote antiquity had possessed extensive settlements in this valley, where there was to be found every requisite for human subsistence, fine wholesome water, and fruitful soil, as it indisputably was, being several times in the year overflowed by the Colorado Chiquito. After leaving the valley, the prospect was dreary enough, and as far as the eye could reach nothing was to be seen but a barren, stony, uneven waste, on which certainly nothing whatever would grow; the ground was sandy, and thickly strewn with coloured flints, agate, jasper, chalcedony, and countless pieces of petrified wood, which we should not have recognised as such, if we had not seen the trees and blocks in the Rio Secco, which had not yet been rolled smooth and polished. The rocks that cropped out here and there from the surface of the ground, were mostly grey sandstone, and towards the west the monotony of the prospect was somewhat relieved by some single, conical, volcanic hills, and the snowy summits of the San Francisco Mountains.

It was still early in December when we pitched our tents for the first time on the Rio Colorado Chiquito, where, alas! our poor beasts could find but scanty food; for the long grass in the valley was yellow and withered, and though there grew on the declivities of the hills, tufts of the short nourishing gramma grass, they were so widely scattered that a mule could not possibly satisfy its hunger on them. Often enough afterwards, however, we should have esteemed ourselves most happy to fall in even with such pastures.

Towards evening on the 5th of December, the two Indians whom we had sent to the Moquis returned to us, but, instead of the guides we had hoped for, they brought us most melancholy news. The small-pox was raging in a frightful manner among those tribes, so that, according to the account of José Maria, the Zuñi Indian, whole households had been swept away, the survivors were no longer able to bury the dead, and wolves and coyotas* were feeding on their flesh. Possibly there may have been some Indian exaggeration in this, but even with this allowance it was a mournful story. An adverse fate certainly seems to pursue the original inhabitants of the American continent in every way, but nearly all that they have suffered, and are still to suffer, may be laid, directly or indirectly, to the charge of the white population. And how few are the attempts to make this poor deceived race any amends for the harm that has been done them! In the judgment of all travellers who have come into contact with the Pueblo-Indians, they well deserve the help of the missionary, since they show already such a tendency to civilisation. They are peaceable, industrious, and domestic in their habits ; but remote as they are from any centre of civilisation, they can proceed no further than to provide for their own maintenance, and some few of the conveniences of life. Yet they might be made skilful mechanics, and even trained to become conscientious teachers of the young ; the benefit of instructing them in the method of vaccination would be incalculable, and had they once attained to a certain grade of civilisation, they would, of their own accord, advance from step to step, until they could enter the rank of cultivated nations. Unfortunately, however, most missionaries think, that when they have built a church, and entered certain tribes in their reports as Christians, they have done all that is required of them : as other nations have passed away, leaving scarcely a name behind, so will the lost descendants of these once renowned warrior races, and these pious men will be perfectly satisfied with such a result if they can only say that when the Indians perished they were no longer Pagans.

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* The small prairie wolf (*Canis latrans*) is called in New Mexico the Coyota, a word derived from Coijotl, the Aztec name for wolf.

This was the last night the Zuñi Indians passed with us, and they left us on the following morning, and departed loaded with presents, whilst we proceeded on our way towards the extinct volcanic mountains of San Francisco. Sometimes we journeyed through the valley, and sometimes crossed small hills, where the valley made a curve, and we thought we could cut off a bit of the road. Our sport was improved by the presence of black-tailed deer *(Cervus Richardsonii, Aird, et Bachmann)* which showed themselves in the neighbourhood of the water ; and from time to time we saw porcupines, *Cercolabes novæ*, lazily climbing the trees.

We made easy marches as we passed along the northern bank of the Colorado Chiquito, partly that we might not too much get the start of the escort following us, and also that our riding and pack mules might not be fatigued before we had passed the wintry regions that now lay before us. From the passage over the water-shed of the Sierra Madre, at an elevation of 7750 feet above the level of the sea, to the point where we touched the Colorado Chiquito, we had made a considerable descent, and we now found ourselves at no greater height than 5525 feet. The distance between these two points being 137 miles gives a depression of 18 feet per mile ; but from the last-named point to the river it did not exceed six feet.

We had now arrived at the mouth of Chevelon's Fork, a stream that rising in the Mogoyon mountains flows almost due north to the Colorado Chiquito. It owes its name to an unfortunate trapper, who, urged by hunger, one day dug out some poisonous roots on its bank, and died a few hours after eating them.

We pitched our camp on the 6th of December a little to the west of this mouth, with the volcanic masses of the San Francisco lying to the west of us ; the long chain extending southward as far as the eye could reach, and the southern horizon also being bounded by woods and mountains. Towards the north the San Francisco Mountains ran into a wild, rugged highland, so that looking north-west the country appeared to be generally level, with conical hills rising here and there above it ; whilst due north there stretched out a flat, boundless desert. We were in such a position with respect to the mountains of San Francisco, that we were about equidistant from the northern and southern base of the principal peak, and we must necessarily go round it, and make out, if possible, which pass would offer most advantage, or rather fewest hindrances to the construction of a line of railway.

The Colorado Chiquito certainly flows northward past these mountains, and, as far as we had seen of this river, or could now see, the valley appeared well adapted to our purpose; but Leroux gave us some further information on this head. He had, in the year 1853, accompanied an expedition under the command of Captain Sitgreaves, as guide to the Great Colorado, and led it down that river to the Gila, and afterwards to California; and as this expedition desired to take all possible advantage of the position of the valley of Colorado Chiquito, they had followed it northward along the mountains, and Leroux had thus had an opportunity of becoming thoroughly acquainted with it; and he convinced us that it would be a sheer impossibility to follow Captain Sitgreaves' route with our train of waggons, since the river further to the west passed through such deep narrow ravines, and formed such cascades, that even mules without any burden could scarcely be got past the most dangerous places. It was, therefore, now our business to seek a pass through the great mountain chain, and it was determined to send on a reconnoitring party to examine the ground, while the rest of the expedition after staying two days behind, was to move slowly down the river, and where the rocks barred their further progress make a halt, and await the return of the party from the mountains. Before this plan was put in execution, however, we were allowed a few days of rest, and these we employed in hunting deer, and laying traps for the wolves. Besides these, some porcupines, and a few beavers *(Castor Americanus, Fr. Cuv.)* which had erected their dams on the banks of the river, there was no game in the valley, though hares and other small *rodentia* abounded on the heights.

On the second night an accident happened that might have had the most serious consequences for the whole expedition. We were just lying comfortably in our first sleep, when we were awakened by a wild rushing about of our watchmen, and the thundering tramp of apparently our whole herd of mules. Almost in a moment our entire *personnel* was up and armed, and out of the tents, but avoiding the glare of the fires, in the full conviction that we were attacked by a party of Navahoe Indians, and that they had driven away all our cattle. One of our Mexicans, who had been long a prisoner with that tribe, and bore the most deadly enmity to them, snatched a dozen arrows from his quiver, and shouting "Navahoes!" rushed away into the darkness, in the direction whence was heard, more faintly now, the trampling of hoofs; while we gathered in groups that no one might have to fight singly. The whole camp was soon drawn up in order of battle, but not a single enemy was to be seen, and we heard only the voices of our own muleteers who were pursuing the flying herd.

At last some of the sentinels came in and solved the riddle. The wolves, whose howlings had generally sounded from a considerable distance, had, during the night, approached so near that the mules had been seized by panic terror, and galloped away in wild, tumultuous flight; and under the influence of such a feeling, the creatures will go tearing on, regardless of all obstacles, till their mad career is stopped by their utter exhaustion. Our mules, then, it appeared, were gone, with the exception of some few that had been tethered, or that our Mexicans had succeeded in catching with the lasso; and the sentinels and herdsmen returned one after another, with the unconsolatory intelligence that in the darkness of the night it had been quite impossible for them to find any track of the fugitives. The incident created some consternation among us, for even if the Navahoes had not occasioned the stampedo, the animals in their flight might easily attract the attention of these wandering robbers, and in that case they were irretrievably lost to us. We were somewhat relieved to find that they had taken the direction of the path by which we had come, as they might in that case meet the soldiers who were following us; but again, if they did so, it was perfectly possible that their herd might catch the infection of panic terror from ours, and flee with them.

As soon as day dawned on the following morning, our mounted Mexicans were away in search of the fugitives, and by noon they had returned with a considerable number; the rest, it was ascertained, had gone back beyond our last night's camping-place, a distance of five-and-twenty miles, and could not be with us again till a late hour in the night. The reconnaissance party which was to have set off the next morning at daybreak was detained by the stampedo for two days.

During our stay at this place, we often climbed a small isolated mountain that stood about a thousand yards from our camp, and looked around us in all directions; the mountain range was too distant for us to make any discoveries that could be useful in our search for a path, but we could distinguish there columns of smoke, rising here and there among the dark fir and pine woods, that gave certain indication of the presence of natives, and of the necessity for the utmost caution on our part.

On the second day after the stampedo there was again a stir and excitement in our camp, but this time it had an agreeable cause, namely, the arrival of Lieutenant Fitzball with the men under his command—five-and-twenty wild daring-looking fellows, whose physiognomies, and entire bearing, were strongly indicative of their having been long in remote, uncivilised territories. They were provided with pack mules, and also with so many for the saddle that half the men could be mounted; and the journey from Fort Defiance had been made very quickly, especially as this party carried with them neither waggons nor tents, and though they had to dispense with many comforts, they were also thus relieved of a great burden. Most cordially did we salute the new comers, and within half an hour of their arrival, they were making merry round our blazing fires, and roaring jovial songs, which afforded satisfactory indication of their spirits not having been at all affected by the hardships of a life in the wilderness.

The next morning the reconnaissance party prepared for a separation of a few days from their comrades, and a visit to the regions of ice and snow; for the white robe in which the summit of the Francisco had long been wrapped, was descending, lower and lower, every day, and we could see that the hand of winter was upon the woods at the foot of the mountain. Besides Lieutenant Whipple, the party consisted of Lieutenant Johns, the guide Leroux, the engineer Campbell, Mr. White the meteorologist, with nine soldiers, and a few muleteers. At an early hour their mules stood ready saddled, and after a hearty breakfast, and a hearty leave-taking, they crossed the river, rode to the westward along its southern bank, and were soon lost to our sight behind a prominent range of hills.

Our train remained this day on the north side of the Colorado Chiquito, and then we broke up our camp and proceeded along the river, towards the west, and pitched the tents again in a meadow that offered some food for our beasts, nearly opposite to a spot where on a small height there were to be seen obvious traces of a former Indian settlement, which we had visited from our last encampment, and examined thoroughly. The rounded elevation on which the ruins lie, rises separately from the hills that inclose the valley, and stands apart, so that at times of inundation it must have been quite surrounded by water, and there is little doubt, that at the time when the town was flourishing, the hill was surrounded by a trench connected with the river, and that the access to it was by bridges. The area of the hill, and consequently of the town, was but small, not more than a few hundred yards; but if, as is probable, it was once entirely covered with terraced many-storied buildings, like those of the present Pueblos, the number of inhabitants could not have been so very insignificant. It appeared to us to have been built not exclusively with adobes, but also in part with stone; for besides the foundations, heaps of roughly-hewn stones were lying about, that had evidently belonged to masonry, which, in the course of time, had fallen in. There were even traces of arches recognisable, besides the usual masses of broken pots, and we were fortunate enough to find some stone arrow points among the rubbish. Several days' journey further to the west, near the river, but above the falls, at a point that we were not to touch upon, Captain Sitgreaves discovered some better preserved ruins, and it is probable that between here and the Colorado, the traces of a half-civilised race will be found still more frequently. These ruins, described by Captain Sitgreaves in his report, lie at a short distance from the river, on a projecting crag of a plateau covered with lava, and they consist of fragments of houses of considerable extent, many of them of three stories. They are obviously the remains of extensive settlements, that must have lain scattered over an area of from eight to ten miles about the valley of the Colorado Chiquito, and which must have rendered it at one time a thickly-peopled district. That no water is found near the ruins that lie farthest from the river, the natural reservoirs and springs being choked with volcanic dust, is considered by Captain Sitgreaves sufficient to account for their abandonment. It is, however, scarcely conceivable that in the vicinity of a river that is never dry, there could be a want of water, or that industrious people could allow their reservoirs and cisterns to become thus choked. It is surely far more probable that a general emigration occasioned the abandonment of these numerous towns; when the valley became too narrow for their habitation, they may have been tempted by the better soil and wider space offered them further south, on the Gila, and in Chihuahua, where they built their Casas Grandes,—

but only to leave them again as soon as they had obtained knowledge of the paradisaical districts southward again of those.

The Casas Grandes on the Rio Gila, and at Chihuahua, have been mentioned by every traveller who has ever passed that way, from the Spanish missionaries of the 17th century to the officers of the most recent expedition sent by the United States; and the numerous reports that have been collected, offer abundant material for study to the inquirer into Mexican history. It must strike every one that the more southerly ruins manifest greater culture and experience in the builders, and also indicate that the towns and settlements so situated were more thickly peopled, and inhabited for a longer time, than those lying further north, which also are in a state of far more complete decay. Among the former, are some remains of buildings that might be restored with no great expenditure of time and trouble. Mr. Bartlett, in his "Personal Narrative," has given us an excellent description of the Casas Grandes, and alluded also to those of other travellers—old and new. He first mentions the Casas Grandes on the Rio Salinas, whose broad valley shows evident traces of former cultivation, though now thickly overgrown with mezquit bushes. Old canals, often of considerable length, for the irrigation of the neighbouring lands, as well as ditches for the same purpose, are clearly recognisable, although mostly choked up and overgrown. The ruins themselves, which at a distance look like rugged hills, lie on a kind of elevated plain or plateau, and consist of the remains of an ancient adobe building, that must have been two hundred feet long, and eighty broad, with its four sides front-ing towards the four cardinal points. Portions of the walls are still standing in many places, namely, at the highest point on the south side, where there must have been four stories, rising one above another; and again at the north end of the west side. These fragments of walls, however, scarcely rise above the wildly luxuriant shrubs that grow about them. One round heap, overtopping all the rest, appears to have been a kind of tower, and the masses of adobes are still so hard, that it is no easy matter to break them. On the western side are visible the remains of a long wall, that must have stretched out far beyond the building, and probably served as an inclosure. Towards the north-east, at a distance of three or four hundred feet from the principal building, are the remains of a circular inclosed space, of which it is not easy to make out the purpose. It is much too small for a courtyard, and again much too large for a well, and the vicinity of the canal also makes this supposition unlikely. From the highest point of these ruins, which may be about twenty-five feet above the surface of the plateau, other similar heaps of ruins are visible in all directions, and especially at a distance of a mile towards the east, where a whole range of them may be seen extending from north to south. The entire plain is covered with painted fragments of pottery, some of which are in such good preservation, that you might draw the whole outline of the vessel of which they have formed a part. There are, also, many green stones found on the surface of the ground, where they have been washed free of earth by the rains, and they are always eagerly sought for by any natives who may happen to be present. These stones also have been mentioned by all travellers from the Missionary Coronado, who crossed the Gila in 1540, to the latest visitor.

The following is Mr. Bartlett's account of the Casas Grandes on the Gila[*]: —

"After we had followed in an easterly direction, for about eight miles, the path across the plateau, which is overgrown with small mezquit trees, we turned towards the south-east, and when we had gone another mile, we saw, rising above a mezquit wood, the building that we specially intended to visit. For two or three miles before reaching it I noticed a large quantity of fragments of pottery, as well as ancient acequias, or irrigation canals in the lowlands. These lowlands are a continuation of those inhabited by the Pimo Indians, but the valley here is narrower, and near the ruins only a mile broad; it also is thickly covered with mezquit trees, of from twelve to twenty feet high; amongst the trees on the plateau, the tall and graceful *Petahaya*[†] stretches out its thorny arms, looking like a gigantic candelebra; and the light-coloured walls of the ancient buildings contrast well with the dark-green foliage that surrounds them. The Casas Grandes, or Casas Montezuma, as they are sometimes called, consist of buildings which are all crowded together within an area of about a hundred and fifty yards. The principal and largest building is in the best preservation, for the four external walls, and most of the inner ones, are still standing. A considerable portion of the upper external wall has gradually broken loose and fallen in, as is evident from the mass of fragments and rubbish which fills the first story; and the stumps of the beams left in the walls, as well as the holes left where beams have fallen out, show clearly that there were three stories; and judging from other fragments, I think it probable that there was a fourth. The lower rises eight or ten feet above the external walls, and has probably been a story higher. The walls at their base are four or five feet thick, though they were so much dilapidated that their exact proportions were not ascertainable. Inside, the walls are perpendicular, but on the outside, they slope towards the top; and both outer and inner walls have been built of great square blocks of clay, made by squeezing the materials into a large box or mould, about two feet high and four long. As soon as the clay was sufficiently hardened, the mould had been pushed on and filled again, and so on till the edifice was complete. This is a rapid method of building, but the Mexicans seem only to have had recourse to it in the erection of walls and partitions; the material is the earth of the valley mixed with flint, which binds it into a solid mass, that when dried in the sun is very durable. It appears that the outer walls have been roughcast outside, but the inner surface, as well as all the internal partitions, are as smooth and polished as if the building had just been completed; on one there are some figures rudely drawn with red lines, but no inscriptions. From the ends of the beams that pass into the wall being charred, it would seem that the building must have been destroyed by fire. Some of the beams across the doorways are made of trunks of trees merely stripped of the bark, without the trace of a sharp instrument being visible upon them. The rafters which supported the floors, were five or six inches in diameter, placed at equal distances, and fixed deep in the walls; most of the rooms have doors of communication between them, but there are merely round openings at the top for the admission of air and light. The ground plan of the building shows that the apartments were all long and narrow and without windows; the inner ones seem to have been store-rooms, and it is possible that the whole building was used for some such purpose. It has four entrances, one in the middle of each wall: the door on the western side is only two feet broad and seven or eight feet high, the other, three feet broad and five feet high, and narrowing towards the top,—a peculiarity of all the ancient buildings of Central America and Yucatan. The west front is furnished with round openings, as well as doors, and over the doorway connected with the third story, is an opening or window that I believe to have been square, in a line with two round ones. The south front is much fallen away, and damaged by great rents that enlarge from year to year, so that the whole will probably soon fall in. The damp promotes decay here more than in other parts of the building, and in a few years the walls will be completely undermined, and the whole falling in will form a hill like many other shapeless elevations that are visible on the plains. A very few days' work at the repairs of the walls at their base, would render this interesting memorial as firm as a rock, and enable it to defy the effects of centuries to come. How long it has been in this ruinous condition cannot be ascertained, but a century ago, when it was visited by some missionaries, it was almost in the same state as at present. Its dimensions are fifty feet from north to south, and forty from east to west; there are on the ground floor five rooms, two of which run through the whole extent of the building, and occupy a space of thirty-two feet in length and ten in breadth; between these are three small chambers, of which the middle one lies within the tower; they are all open at the top, and as there are no signs of a staircase, it is supposed that the means of ascent were on the outside. South-west of this building lie the remains of another, so entirely fallen to decay that its original form is quite undistinguishable, and north-east of it is a third one in the same condition; it is of small extent, and may have been nothing more than a watch tower. In all directions, as far as the eye can reach, it discovers more and more ruins, and about two hundred yards to the north-west is a circular walled inclosure, of from eighty to a hundred square yards, with an opening at one part, and which was very likely a stall for cattle.* For miles round, the plain is covered with broken pots and stones, such as are used for grinding corn, *metats* as they are called. The fragments of pottery are red, white, lead-coloured, and black; the figures on them mostly geometrical, and arranged with some taste as decorations, in the same style as on the fragments at Salinas and further north. The resemblance will appear very striking if the representation of those just described is compared with that of the pieces I myself brought from the ruins in the Rocky Mountains, and on the Little Colorado."

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[*] He also speaks of the ruins on the Colorado Chiquito above mentioned, to which Leroux had been his guide. See "Personal Narrative," vol. ii. p. 271.

[†] *Cereus giganteus*, or giant cactus, afterwards described.

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* It can only have been the Bison which the population of these regions must have found means of procuring from the grassy steppes; the animal is known to have wandered, in former times, to the western side of the Rocky Mountains. Alexander von Humboldt mentions herds of tame buffaloes kept by Indian tribes of the north-west (Ansichten der Natur, vol. i. p. 72; Cosmos, vol. ii. p. 488); and the acute Albert Gallatin believes in the practicability of taming this animal.

Bartlett also gives a description of the ruins of the Casas Grandes in Chihuahua, from which the following is extracted:—

"The outer walls of these Casas Grandes can now only be recognised by the long lines of ruins that run parallel to remains of a wall still standing, or form a right angle with them, but here and there, at a corner, traces of cross walls may be discovered. At first I thought that three different buildings must have stood here, and I had still this idea when I made my drawing, since I perceived three large, and apparently separate, heaps of ruins, each of which showed portions of walls still standing. On closer examination, however, I found that they had been connected by a line of low buildings, which, as they were evidently only one story high, may have been merely outhouses. Assuming that all the principal points were connected by low masonry or corridors, the entire building, from north to south, must have extended at least eight hundred feet, and from east to west two hundred and fifty. On the south side the traces of a regular continuous wall may be followed, whilst the eastern and western fronts are rendered irregular by projections. It appears that several courts, of greater or less extent, must have been contained within the same inclosure. The general character of this extensive line of buildings is the same as that of the Casas Grandes in the neighbourhood of the Pimo villages on the Gila; both are unquestionably works of the same race, and the material is the same as that of the ruins on the Salinas. Like the buildings on the Gila it has been constructed of large masses of earth laid over one another, but from some cause or another — perhaps from the less solid quality of the adobes — the walls are in a state of greater decay; no other explanation can be given of their state, unless a greater age be assigned to them than to those on the Gila, which would contradict the opinion generally formed of them. The more frequent torrents of rain here must doubtless have had some effect in causing decay.

The walls have been, in fact, washed away to half their thickness, and it has only been by digging that their original dimensions could be ascertained. At Gila the inner surface of the wall is as untouched as if the mason had but just passed his trowel over it, and even outside it is but little decayed. In these ruins, on the contrary, no part of the original surface is visible. I sought after it, to convince myself whether it had been faced either inside or out, but could only make it out by digging to the foundation. Many parts of the wall, especially between the northern and southern buildings, have precisely such facing as those on the Gila. The doors have been built in the same way, narrowing towards the top, and the same circular openings are visible in the upper portions. The walls were too much washed away for me to be able to find the holes where the beams must have passed, so that I could not, as at the Gila, make out the mode in which they must have laid, or the number of stories; indeed there was not a trace of beam or threshold any longer to be found. Many gateways were still there, but the door-sills and facings had all fallen or crumbled away.' *

Bartlett's description of the Casas Grandes is so accurate, that a comparison may easily be made by means of it with the ruins on the Colorado Chiquito, but unfortunately the latter are so much decayed that there is little more left than foundation walls. Even in these the resemblance is perceptible, but these buildings must have been of smaller extent than those on the Gila and in Chihuahua; and the dimensions of the masonry also, and of the rooms, must have been less

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* *Casas Grandes*; Lieut.-Col. W. H. Emery's "Notes of a Military Reconnaissance from Fort Leavenworth, in Missouri, to San Diego, in California," pp. 81–83:—

"We saw to the left of us a great tower, obviously the work of human hands—the remains of a three-storied clay house, sixty feet square, with openings for doors and windows; the walls were four feet thick, and built of layers of clay each two feet high. There can be no doubt that this building originated with the race by which these regions were once so densely peopled. I once asked a Pimo-Indian about the origin of the ruins, of which we have seen so many, and he answered, that all he knew about them was from a certain tradition of his tribe—that once upon a time there lived on a green spot among the mountains, not far from the Casas Grandes, a woman of incomparable beauty. All the men admired, and wished to marry her, and she accepted from them corn, skins, &c., as tokens of their adoration, but without giving her love, or any sign of favour, in return. Her virtue, and her resolution to remain unmarried, were inflexible. At length, after some time, there came a drought that threatened the whole world with famine; and in their distress the people had recourse to the woman, who gave them corn from her store, which appeared inexhaustible. Her goodness, too, was boundless.

"One day, when she was lying asleep in the open air, there fell on her person a drop of rain, and in consequence of this she bore a son, and he was the founder of the race by which all these houses were built."

considerable. Apart from the consideration that for this very reason the buildings on the Colorado Chiquito would have been more quickly destroyed, everything appears to indicate that if the northern and southern ruins originated, as can hardly be doubted, with the same people, the northern must be older than the southern ; but that greater experience, and the wish to erect more durable abodes, occasioned the construction on the Gila, the Salinas, and Chihuahua, of larger, more commodious, and more solid edifices.*

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* Lieut. J. W. Abert, in his Report concerning New Mexico made in the years 1846, 1847, p. 49, says,—"We were surprised by the great resemblance between the Casas Grandes and the buildings of Acoma and Pueblo de Taos. We need no further proof of the common origin of the New Mexicans (Pueblo-Indians) and the Aztecs; and Clavigero also says, on the subject of the nations of Anahuac having come from the north, 'Besides the testimony of Torquemada and Bezancourt, we have other proofs; on a journey that the Spaniards, in 1606, made from New Mexico to the Tijou River, six hundred miles towards the north-west, they found there great buildings, and met with Indians who could speak the Mexican language.'

"The most important observations on the subject of the Casas Grandes, however, have been made by Professor Buschmann, in his copious, elaborate, and excellent work 'On the Aztec Local Names,' pp. 59–67, 1853, already cited."

CHAP. VIII.

THE SMALL-POX IN THE EXPEDITION. — RETURN OF THE RECONNAISSANCE PARTY. — DEPARTURE FROM COLORADO CHIQUITO. — VOLCANIC SOIL. — VOLCANIC CONES. — THE FIRST FALL OF SNOW. — THE WOODS OF THE SAN FRANCISCO MOUNTAINS. — DEEP SNOW. — SUBTERRANEAN ABODE OF THE NATIVES. — CHRISTMAS CELEBRATIONS IN THE MOUNTAINS. — THE FOUR CHIEF SUMMITS OF THE SAN FRANÇISCO MOUNTAINS. — SQUIRRELS. — LEROUX SPRING. — ANOTHER RECONNAISSANCE PARTY SENT OUT.

THE first night on the south side of the Colorado Chiquito was bright and clear, a hard frost had drawn an icy covering over the waters, and thrown its white mantle on all prominent objects. New cases of small-pox had, however, occurred amongst us, and our sleep had been disturbed in the night by one of the patients, who, in his delirium, had wandered about among the tents, shaking them and startling their occupants. Strange to say, however, all the nine patients recovered, though the most severe cases occurred in the high mountains, where there was little protection from the cold and snow, and an interruption of the journey was not to be thought of.

The waggons rolled along easily over the frozen ground, the hoar frost sparkled and glittered in the sunbeams, and, as the sun rose higher, gradually disappeared; further and further westward we journeyed, mile after mile was passed, and at last the snowy mountains of San Francisco could be distinctly seen with all the details of their scenery: and numerous volcanic hills, ravines, and lofty woods, were clearly distinguishable. We now found ourselves passing over rough stony ground, that formed the inclosure of a valley, then through the valley itself; sometimes we saw the glassy river gleaming close to us, sometimes only the trees on its banks, and that at a considerable distance, according to the windings of the streams, and as it approached or retired from our course, which we endeavoured to make as straight as possible. Large red-tailed buzzards (*Buteo borealis*, Sws.) sat thoughtfully on the projecting branches of cotton-wood trees, and small partridges hopped about among the thick shrubs, and nothing hindered our progress, until we found ourselves so hemmed in among volcanic rocks that we were compelled to take the only way open to us, namely, the way back.

The bare hills that lay to the south had for some time been rising higher and higher, so that we could now no longer leave the river in the only direction that for a long time had been practicable, and we had to retrace our steps full four miles. At this point, where a gradually ascending ravine appeared to open a way to the south-west, we halted, and determined to await the return of our reconnoitrers.

Again in the night we were startled by a stampedo of our mules, but it had no further consequences, for, as the herd in its headlong flight had betaken itself into a ravine that was a complete *cul de sac*, the people easily got possession of them again. This time the alarm had not been occasioned by wolves, but by a large fire that had been kindled by our men on the summit of a prominent hill; it had been done intentionally, in accordance with our agreement with Lieutenant Whipple, to show him the direction he and his little party must take to come up with us, while we on our parts looked round of an evening for a similar fiery signal, but we saw nothing that could indicate to us the whereabouts of the party, or suggest the cause of their delay.

In the afternoon of the 20th of December, for we had been obliged to wait thus long, one of the sentinels brought intelligence that our comrades were in sight. We all hastened to meet them, and convinced ourselves, to our great joy, that no one of their number was wanting; it would have been nothing extraordinary or unexpected, if they had come into hostile collision with the wild natives, and suffered loss in consequence; and we knew but too well, through Leroux, who had seen many such adventures, that the Indians of these regions had hitherto showed themselves hostile to every white with whom they had come in contact. Most cordially were the returning wanderers greeted, and the cooks immediately set to work to prepare such a meal as might help to restore the strength of our hungry friends, and then began the questions and answers. One wanted to know about the physical conformation of the country, another about the sport it promised, a third about the Indians; but the answers were mostly very unsatisfactory. Of the Indians not a single individual had been seen, the ground had been hidden under snow a foot thick, and the only consolation was that the country seemed to afford some promise of game. The party had reached the water known as Leroux Spring, and up to that point had found the way accessible, though difficult. It appeared, therefore, that we should have to pass to the south of the range of mountains, and our first business was to get to Leroux Spring with our train of waggons; thence we should have to send out a new reconnaissance division. For the sake of the wearied party that had just returned, the 21st of December was to be a day of rest, and on the 22nd we were to bid farewell —farewell for ever to the Colorado Chiquito.

We were now 1182 miles from Fort Smith, and 348 from the Rio Grande del Norte, and we found ourselves at a height of 4775 feet above the level of the sea, and therefore 168 feet lower than when on the Rio Grande. We had no further descent to make on the eastern side of the San Francisco Mountains, for as soon as we had left the Colorado Chiquito we began again to ascend. The course of the river we had followed so long being somewhat northerly, it had brought us into such a position with respect to the mountains, that their northern peak lay due west of us, and when on the 22nd we left the river, we had to go a good deal to the south to get to the southern base of the four principal mountains.

A more dreary country than we travelled through on this day can hardly be imagined. The way went up hill and down hill, over rugged volcanic ground, the shoes of our mules and the iron hoops round the wheels of our waggons leaving lead-coloured marks on the sharp lava-like rocks; and the journey was so much the more toilsome as we had to contend against an ascent of forty-seven feet to the mile, and an icy north wind which was driving the volcanic dust in our eyes. We had provided ourselves with water for our own use, as the first spring we expected to meet with lay at two days' journey from the Colorado Chiquito, but our cattle were obliged to do without it, which was so much the harder on them that they could find only a very scanty supply of food so thinly scattered about the stony ground that it was hardly worth their search. There was little choice with respect to a camping-place, so, after jogging on till towards evening, we pitched our tents at the foot of a heap of lava, where a few shrubs offered a supply of fuel; the sky clouded over, a bitter wind came howling between the naked hills, and every thing indicated the approach of snow and bad weather.

We started, nevertheless, at an early hour of the 23rd, for we had to make a long day's march that we might get to water. The cold this morning was still more piercing than on the evening before, and the sky hung like a mass of lead on the white summits of the high mountains. A few flakes of snow began to whirl round us as we mounted, and induced us to draw our wrappages closer round us, as we hastened on after the waggons which were already on the way.

After a few miles we came to a group of small extinct volcanoes, the only ornament of which was the cold black streams of lava, which could be clearly discerned on the grey surface of the hill; and towards the north-west rose more and more hills, one seeming to hide behind another. The ascent was now fifty feet to the mile, and the snow was falling so thick that we could no longer see round us, and had to be very careful not to miss the track, for a very few minutes served to cover it completely with snow. We met herds of forked antelopes, who appeared to be hastening away from the snowy regions towards the plains, and with every mile some change took place in the scenery.

Single cedars began to emerge from the white covering, and, becoming thicker and thicker, at last formed woods, which increased in height as we advanced into them. We had to make many a round to avoid impenetrable thickets and deep ravines, that would have been impassable for our waggons. Our guides, amongst whom might now be reckoned those who had made the journey but a few days before, were scarcely able to make out the way we were going, through the falling snow; but, fortunately, the wind that raged above in the mountains did not reach us, sheltered as we were by both mountain and forest.

Although we suffered a good deal from cold in the feet, we could not but rejoice in the fine spectacle of nature that surrounded us, and I believe that to all who shared in the expedition this first day's march in the depth of winter—this sudden transition from the dreary volcanic waste to vast forests and sky-piercing mountains—will not readily be forgotten.

Most picturesque was the effect of the wild ravines and beds of torrents, with their huge blocks of stone covered with snow, and the black caves and chasms beneath, in which many firs and cedars had struck root. The slender trees hung perfectly still from the declivities, and allowed the snow to rest on the dark green needles that thickly clothed their boughs, only bowing their heads gently when a gust of wind rushed down the mountain to die away among their trunks. A solemn stillness reigned through all nature, for the deep snow hushed the sound of the waggon-wheels and mules' hoofs, and the wolves, lurking here and there in the woods, indulged us only now and then with a broken howl.

There wanted now only one day to Christmas, and still the eye could feast on richly-clothed trees; in every one's baggage were to be found some well-preserved bottles of that which makes glad the heart of travelling man; and the marvellous combination of wood and mountain and valley must have tended to remind every one of their great Creator, and awaken feelings of devout gratitude. This feeling is closely allied to those of love to one's neighbour, and compassion for the brute creation; and there was no one, I imagine, in our whole expedition who did not at this time sincerely grieve for the hardship suffered by our poor beasts, who for their Christmas cheer had to scrape away snow a foot deep to get at the scanty grass and moss beneath.

The many roundabout ways we were compelled to take, and the obstacles that frequently obliged us to come to a halt, prevented our reaching before a late hour the place of encampment chosen for us by our reconnoitring party. This was on the edge of a rocky ravine, where wildly-rushing waters had worn a deep hollow in the rock; and as in this chasm they were protected on all sides, they were not frozen, and only increased by the snow that had fallen, so that the hollows were overflowed, and the whole resembled a deep-lying spring. Near this ravine we proposed to pass our Christmas, and long before the waggons had come up, a large party was assembled under the lofty pines, and busily engaged in clearing away the snow from the place where the tents were to be placed. Mighty piles of wood were built up and kindled, and we soon began to feel quite comfortable in their blaze. One waggon after another came slowly in — the snow had ceased, and though the cold had increased, we kept it off by hard work. The waggons were drawn up in a suitable spot, the cattle set at liberty and driven to the water, and thence to a place where a little grass showed itself above the snow ; trees were felled, and in the course of half an hour the place began to look quite habitable.

As night came on, our company was seen seated in picturesque groups round the fires, which glowed larger and brighter in the darkness. The cooks were running about busily with their hissing frying-pans and bubbling coffee-pots, some were singing, some cheerfully gossiping, some only wrapped in their blankets and calmly smoking their pipes, but all rejoicing in the thought that to-morrow would bring the blessed Christmas Eve.

We were late up the next morning, and the sun had been shining some time before the first signs of life were seen in our camp. The sentinels had not left their posts, but stood leaning on their muskets watching the herd of cattle which, under the guardianship of armed Mexicans, were scraping in the snow for their food. The cooks were the first stirring, and bustling about from one fire to another they performed their various functions, and when they had prepared the breakfast, they roused the whole company. It was a glorious winter's day, not a breath stirring, and equally inviting for walking or for sport ; and one after another left the camp, some to look after game, others to examine some caves in the vicinity, which doubtless had in ancient times served the natives as dwelling-places.

The northern-bank of the above-mentioned ravine consisted of a steep wall of lava, which in cooling had formed nearly horizontal rents that ran far in below the surface of the ground. These chasms had offered the Indians facilities for constructing tolerable dwellings with very little labour, not certainly a very eligible residence, but one that to a wild Tonto or Yampay, who is accustomed to make his house out of the bark of a tree, probably had its recommendations. The sharp points of the lava on the floor had been covered by a bed of hard stamped clay, on which they could stretch their unclothed forms in great comfort, and then clay partitions had been built up to form chambers, sometimes entirely separate, sometimes communicating with each other by small openings; but these, as well as those which led into the open air, were only just large enough for a man to creep through. It did not appear that these chasms had been recently inhabited, at least we found not the smallest article that could indicate such an occupation, but it is true that the persons likely to inhabit them have so very small a stock of worldly possessions, and those few so indispensable to them, that they are very little likely to leave anything behind them. Most probably they are only inhabited in the summer, and as the winter is very severe in these elevated regions, the natives withdraw at that season, and seek a refuge in the somewhat milder climate of the plains. The entrances to these dwellings were in such awkward places on the rocky wall, that now, when the path was rendered still more slippery by the snow, we had to take the greatest care, in scrambling out again, not to glide down into the abyss below.

The scantiness of fodder, and the unusually hard labour imposed on the cattle by the difficulties of the ground lately passed over, had begun to show its effects on the poor animals. Even the mules, who can bear so much hardship, had obviously suffered so severely during these last days, that, for the first time, the question of diminishing our baggage began to be discussed. All articles that appeared most easily to be dispensed with were sought out to be consumed or left behind. Our gunpowder, of which we had a superfluous quantity, was partly given to the Mexicans, who determined to employ it worthily in the celebration of Christmas Eve. Various dainties that had been hitherto carried in closed cases were brought forth to be eaten up at once, partly with the view of lightening the load of the waggons, but at the same time with an eye to the glorification of our Christmas dinner in the wilderness. When we left Albuquerque, some of the party had bethought themselves of the festive season, and procured a chest of eggs, which, carefully packed, had travelled in safety thus far. Others had brought a stock of rum and wine, and all these luxuries were now produced to do honour to the Christmas banquet. In the afternoon we noticed an unusual bustle going on in Lieutenant Johns' tent. He was engaged in the preparation of a gigantic bowl of punch, and having eggs beat up on a grand scale. A huge camp-kettle hung bubbling and steaming over the fire in front of the tent, and near it a large pail for mingling the various ingredients of the festal drink, and the following invitation was soon issued:—

"All gentlemen are requested to assemble after supper before Lieutenant Johns' tent, and to bring with them their tin drinking mugs."

No one had "a previous engagement," or was at all tempted to decline, and as soon as the night set in, and the stars began to glitter in the deep blue firmament, and to look down upon us between the snowy branches, the company began to assemble at the appointed spot, where a magnificent fire had melted the snow, and diffused a delightful warmth around. Lieutenant Johns was busy with his brewage, and that fragrant steaming pail, with the inviting froth at the top, was a most agreeable sight to men who had been so long limited to water. Our party was now increased, by the addition of Leroux and the Mexican guides, who were invited to join us, and then Lieutenant Johns made a speech, as nearly as I can remember to this effect:—

"Let us now forget for a few hours our hardships and privations, the object of our journey, and the labours still before us; and here, under a roof of boughs, and on the spotless white carpet that God Almighty has spread for us, far as we are from our homes, let us think of our friends, who, very likely, are thinking of us as they sit round their firesides; and drowning our cares in a social glass of toddy, drink to their health, and to our own happy return."

The lieutenant's guests did honour due to his "neat and appropriate speech," and then one after another advanced, nothing loath, and plunged his tin mug into the jovial pail. We then sat down in a circle round the fire, and smoked and drank again: toasts and jokes followed one another rapidly, hearts became lighter, the blood ran more swiftly in the veins, and all present joined in such a lively chorus as echoed far and wide through the ravines, and must have sadly interfered with the night's rest of the sleeping turkeys. A little way off the Mexicans were celebrating the festival in their own style with the gunpowder we had given them, and shot after shot, and then whole salvos, sounded through the still air, till the concussion shook down the snow from the branches. Of course they did not fail to accompany these demonstrations with the songs of their country, and at last they became so excited that they determined to have a bonfire.

Into a close cedar thicket, where the branches touched the ground, they threw firebrands: the pointed leaves or needles, rich in resin, caught fire immediately, the flames blazed over the tops of the trees, and sent millions of sparks up to the sky. It was a most beautiful spectacle! The illumination from the burning pines, and other resinous woods, threw a red glow on all objects around, and made the snow glitter with magic splendour, across which fell the dark shadows cast by giant trees, whose tops only were singed, and the most exquisite effects of light and shade were produced among the neighbouring rocks and mountains. The splendour of the sight served to enhance the gaiety of the company till it rose to an almost perilous pitch. The Mexicans sang their *Soli*, with choruses emphasised by continual firing of pistols, favourite Negro melodies were volunteered by the American part of the company, and every fresh beaker was greeted with a fresh song; while at intervals the loud voices of the sentinels were heard calling the hour. As the whole camp had been for a long time deprived of all spirituous liquors, and their effect was increased by the tremendous heat of the vast fire on one side, and on the other by a current of air of the temperature of 16° Fahr. (−7° Réaumur) the effects of the jovial potations began ere long to be perceptible, and the mirth became more fast and furious. Our Mexican guide fetched two of his men, who had been prisoners with the Navahoe Indians, to perform a Navahoe dance. They placed themselves by the side of one another, laid one arm across their breasts, and linked the others together, and then danced and jumped with bent knees round the fire, and yelled, encouraged by our applause, till the perspiration ran down their faces.

Old Leroux, with a face considerably redder than the fire alone would have made it, smoked his pipe, and, as he looked on complacently, observed—"What a splendid opportunity it would be for the Indians to surprise us to-night!" But a surprise would not have been easy, for no customary precaution was neglected. The sentinels, planted all round the camp, were as attentive as usual, and every man of the company had ready his weapons, which, ranged beneath the trees, added to the romantic character of the scene.

As the night advanced, the store in the mighty bowl drew to an end; the ranks round the fire began gradually to thin; one after another vanished behind the curtains of his tent, and by the time the fire had burned low, deep stillness reigned over the camp. The watchfires alone still blazed, and now and then a tree, that had been caught by the flame, would flare up, but soon went out again, and left woods and mountains enveloped in darkness.

The 25th of December was passed in perfect quiet, in thinking over past times and our distant homes, where the church bells were now summoning all to the religious celebration of the season. We heard no pleasant solemn bells, but he must have been, indeed, a dull clod in whom the scenery around awakened no feeling of devotion. While deep in the woods the woodpecker hammered away at the decaying trunks, and the small birds seemed to warble their thanks for the lovely sunny day, and the shelter afforded them by the thick cedar boughs from frost and snow, we looked up at the sublime summits of the San Francisco Mountains, and needed no temple made with hands wherein to worship our Creator.

On the 26th of December we broke up our encampment at an early hour, and set out again, directing our course towards the southern point of the San Francisco Mountains. As soon as we had the wooded hills behind us, and were following an opening towards the west, we saw the mountain displayed in all its beauty. We were about ten miles from the base of the principal one, and could clearly distinguish its formation. Four great peaks, covered with dazzling snow, rose high above the rest, and though numerous summits thronged around and seemed connected with them—perhaps had grown out of them—that only tended to complete their unmistakably volcanic character, which would have struck us even if we had not been for days past travelling on volcanic soil, and obviously not far from the great centre of action. The deeply hollowed-out beds of the ancient lava streams now formed wooded ravines, that cleft the mountain from summit to base, and increased in width as numerous small streams issuing from the sides poured into them. The dense pine and cedar woods reached about half way up the mountain, and thence became lighter and lighter, leaving about one-third of it lying in spotless purity of white, on which the inequalities of the ground were marked only by very light shadows.

When near the foot of the mountain we turned to pass round it to the south, the way leading between lofty pine woods and small treeless plains. We saw herds of antelopes and black-tailed deer, but they were so wild and shy that we could seldom get a shot at one. Of the magnificent squirrels, native to these woods, we got several; but, unfortunately, these pretty creatures took refuge at our approach on the tops of the highest trees, so that we could only reach them with our rifles, and on this account we had to kill several before we got one whose skin was not torn by the bullets, but fit to be stuffed. Those that were shot were, however, not lost, for they made a very well-tasting dish for our somewhat frugally-supplied table. The length of this squirrel (*Sciurus dorsalis s. Abertii*) is two feet from the tip of the nose to the extremity of the tail, which alone measures eleven inches. The ears are broad and almost round, furred inside and out, and with long tufts of hair at the tips. The colour dark grey, with the exception of a stripe of fine red brown along the back and behind the ears. The belly is white, and the white part is marked off from the grey by a black line along the side. The tail is grey at the top with long white loose hair, but quite white underneath.

The nearer we got to the mountain, and the higher our road ascended, the deeper became the snow. The pack mules were driven on first, in order to break as much of a path as possible, and a march of scarcely sixteen miles was found long and fatiguing. We could get no water this day, and when we pitched our camp in a lofty pine wood, we were obliged to have recourse to melted snow, and the cattle, when they were scraping for grass and moss, licked the snow eagerly. On this evening we perceived that the skin of our

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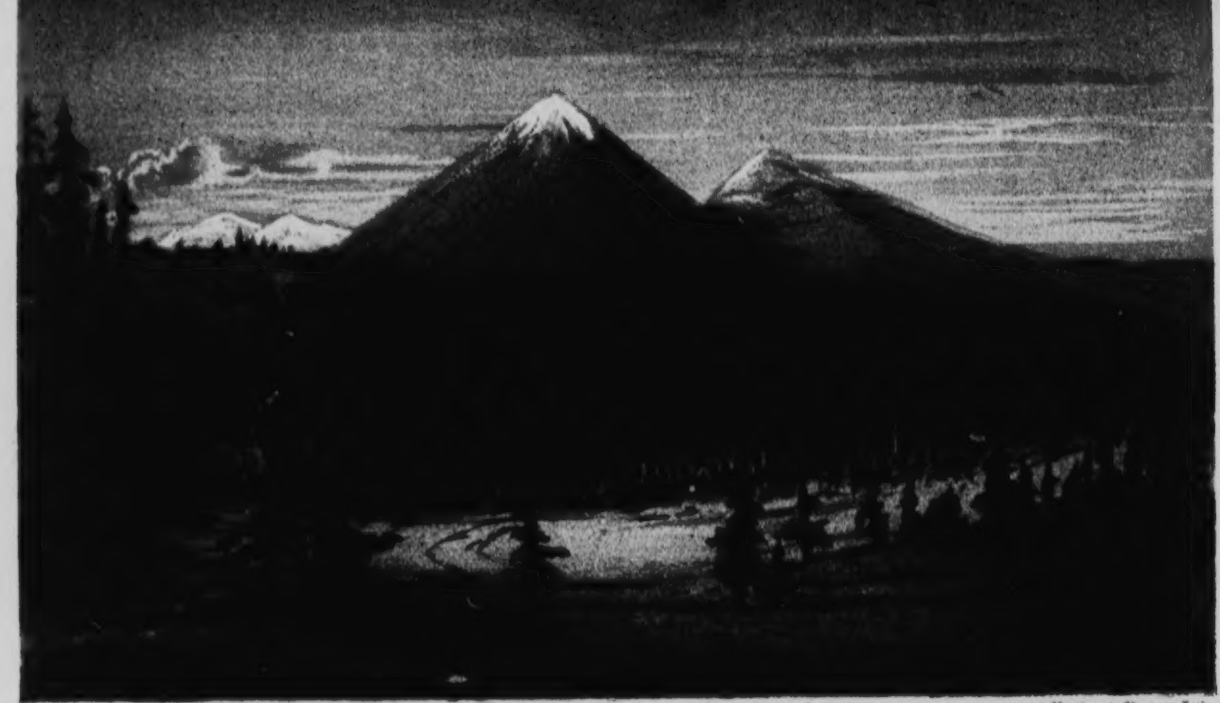

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SAN FRANCISCO MOUNTAINS (EXTINCT VOLCANOES)
New Mexico

UNIV. OF MICH.

ands and faces was changing its colour. The black moke of the fatty resinous wood that we had been urning for several days, had settled upon them in oot so firmly, that we could no longer get it clean off, specially as to avoid cracking the skin we had to efrain from very frequent washing.

We were early on our march the following morning, nd after a short ride came up with Lieutenant Fitz-all, who had ridden forward with a few men the evening before in hopes of finding water; but he had been bliged to content himself with melted snow, and we ow jogged on again in company; a few miles' march ver rough stony ground brought us to a small brook hat contained, especially in the hollows, plenty of good ater, and we watered our cattle here before we went n to look for Leroux Spring. This brook was one of he sources of the San Francisco river, which flows in a outherly direction towards the Gila; and we now found urselves on the watershed between the Gila and the reat Colorado of the west, and remained on it, as we fterwards found, for nearly two hundred miles, namely, s far as the Aztec Pass.

The stony hills that we had to cross here and there, s well as the thick woods, which, for the sake of our aggons we were obliged to avoid as much as possible, ccasioned much delay. In the afternoon, however, e reached a level ravine, which soon led us into a pacious valley, bounded on three sides by woods, but n the north by the real San Francisco Mountains, two f which rose like enormous Colossi before us, whilst he snowy peaks of the two others only peeped over rom the west. We passed, diagonally, across the valley towards an angle formed by the hills and the spur of the great mountain, and halted near Leroux Spring.

We had now reached our highest point since crossing the Sierra Madre, and found ourselves at 7472 feet above the level of the sea, but 278 feet lower than on the Sierra Madre. Reckoned from the base, the principal mountain rose 4673 feet, which gives, as the total height of the peak, 12,145 feet above the sea level; and we therefore still wanted nearly 200 feet to the line of perpetual snow, which in this latitude is at 14,000 feet. The number of miles we had travelled from Fort Smith to this point was 1239, and from Albuquerque 405.

On the former occasion when Leroux had passed through these regions, he had had no waggons to think of, but travelling only with mules, and trusting to their sureness of foot, he had always taken the straightest way. But the case was otherwise now, since it was our business to get the waggons on at least as far as the Colorado of the west, for to carry them across that broad rapid river, with the few means at our disposal, we did not hope.

As none of our reconnoitring parties had proceeded beyond Leroux Spring, it was considered advisable to stop the expedition at this spot, in order to send forward another division which should examine, as thoroughly as possible, the ground to be traversed, and send back messengers to indicate the best route for the waggons.

Lieutenant Whipple accordingly set forward towards noon on the 28th of December, taking with him provisions for ten days, and men enough to be able to send them back on messages in sufficient numbers to afford each other mutual protection, without too much weakening his own party; for, although we had as yet met with no fresh traces of Indians, we had to be constantly on our guard against an unexpected collision with them.

CHAP. IX.

STAY AT LEROUX SPRING. — DEPARTURE. — MOUNT SITGREAVES. — NEW YEAR'S SPRING. — BILL WILLIAMS'S MOUNTAINS. — GREY BEARS. — THE NATIVES OF THOSE REGIONS. — HOSTILITIES WITH THE WHITES. — LEROUX'S NARRATIVE OF HIS ADVENTURES WITH THE INDIANS. — RETURN OF THE RECONNOITRING PARTY. — FURTHER PROGRESS OF THE EXPEDITION. — LAVA CREEK. — CEDAR CREEK. — PARTRIDGE CREEK.

The days we passed at the foot of the San Francisco Mountains were extremely cold, and had we not been so much protected by them we should have suffered considerably. During the day, we used at first to make little excursions into the nearest environs, but as, with the exception of the beautiful grey squirrel before mentioned, not a trace of a living creature was to be seen, by which our sporting propensities might have been gratified, and as it was no light work to wade through the deep snow, we soon desisted. Several of us made an attempt to climb the mountain that lay nearest to us, but we had to give up our project before we had gone half way, for at every step we sank knee deep in the snow, and had the prospect, if we went much further, of remaining sticking in it altogether, since it increased immensely in depth as we went on, and our joints were soon quite lamed. We were able to get one glance over a wide prospect, but the snowy mountain masses, that surrounded us on all sides, left us very much in doubt concerning all that exceeded the distance of twenty-five miles. Due west, however, there arose a blue peak above the rugged landscape, which we determined must be the Bill Williams' Mountain, and it subsequently appeared we had not been deceived.

We got back to the camp towards evening completely exhausted, but immediately set about our customary preparations for keeping off the cold during the night. These were specially the rolling into the fire blocks of lava which lay about of all sizes, and making them as hot as possible. We then shoved and rolled them with wooden levers into our tents, where an agreeable warmth was diffused by them, and in the confined space a tolerably equable temperature maintained during the night. We had tried the same plan before with other stones, but found that the glowing pieces of lava retained the heat longer, though it is true they also required a longer time to get hot.

On the evening of the 30th, two Mexicans came riding into the camp with an order from Lieutenant Whipple for us to follow him the next day, without bringing with us any great quantity of water. We set off accordingly, and turning the hill that bounded the valley towards the west, proceeded on our way over a stony, difficult piece of ground. Although we made but a short march this day, we saw Bill Williams' Mountain much more clearly towards evening, but as we were now to take a turn to the north, and had to leave it lying south, it was not likely that we should approach it more nearly. We were obliged again to have recourse to snow-water, as the quantity we had brought with us scarcely sufficed to make our coffee for the evening and the following morning. At a late hour the following evening, two soldiers came back from Lieutenant Whipple with instructions for us to follow him two days longer, and then await his return at a water pool that we should see on our way. The two soldiers had set off early in the morning, and had not had much trouble in finding the path previously broken to our camp; but when as it grew dark they saw our fires, not thinking we could have got so far, they took ours for a camp of Indians, and had been creeping about cautiously at a distance till they had convinced themselves of the truth.

We only stayed at this place for the night, and the next morning (January 1st, 1854) went on again by the path prescribed to us. Through pine woods, over rocky hills, and along rough ravines, we passed till we came to the edge of a great plain, enclosed all round by dark woods, in the midst of which rose, like an oasis, a small hill overgrown with bushes, and past this hill led the path that had been broken through the deep snow by the animals of Lieutenant Whipple's division. The country here declined perceptibly towards the west, and we were already below the level of Leroux's Spring, but the rugged character of the ground we had passed over, and the woods by which we were continually surrounded, had prevented our perceiving it, and we were only made acquainted with the fact by barometrical measurement.

When we reached the hill we found the fire that Lieutenant Whipple had left the day before still glimmering, and it was a welcome sight to us, for it only needed a little stirring to make it blaze up again; and we crowded round it to light pipes, dry mocassins, or warm our benumbed limbs. But we had not much time to spend there, for it was known that we were to pass the night in a high wood that bordered the plain and still lay several miles before us. Thither most of us hastened on, in order to have a place clear of snow, and wood collected for fuel, before the arrival of the waggons. A range of hills before us, the eastern declivities of which were but slightly covered with snow, offered tolerable pasture for our mules; but the severe cold and the wounds made by the pack-saddles, which, with the hard work they had to do just now, could not get healed, acted very injuriously upon many of them.

On the 2nd of January, 1854, after we had gone a short distance through the forest, we passed to the south of a high mountain, which we called Mount Sitgreaves, after the captain of that name. Some smaller hills that immediately surrounded us hid for a time the San Francisco Mountains lying to the north-east; but, by way of compensation, we had towards the south-west a clear prospect of the Bill Williams' group, covered with pines and cedars and obviously extinct volcanoes. Southward from us there extended from east to west a low range of mountains that appeared to lose themselves in a plain. If we looked due west we saw a wide expanse of plain, broken here and there by small rocks and hills; but in the remotest distance we could perceive two great ranges of snow-covered mountains that appeared to run towards each other from north and south. The country now declined considerably, the forest disappeared and was replaced by scattered strips of woodland, and we could see wide districts that were not covered with snow. Not far from the foot of Mount Sitgreaves we found the water we were in search of, which consisted of a sort of pond or lake, now covered with thick ice. Numerous footprints of the grey bear were visible on the snow around, but the traces appeared to be old, probably from the time when the water froze.

Here, then, at New Year's Spring, so called by Lieutenant Whipple because he had encamped there on the 1st of January, we pitched our tents, and made ourselves as much at home as circumstances would permit, for we did not expect Lieutenant Whipple for several days. We were scarcely thirty miles from Leroux's Spring, but we were three hundred feet lower, and the base of the Bill Williams' Mountains, now perhaps twenty miles off towards the south-west, was two hundred feet lower still.

The numerous footprints of the grey bear, which traversed the forest in all directions, tempted us to follow them. We examined the forest that lay to the south of us, as well as that at the foot of Mount Sitgreaves and the neighbouring hills, and we found dens in such numbers that if they had been tenanted we should have had a bear to every acre of land. The declivities and ravines of Mount Sitgreaves are, it seems, a particularly favourite residence with them, and even Leroux, old trapper and hunter as he was, did not remember to have ever met with signs of such numbers living together on so small a space; but, unfortunately, the whole company had emigrated but a few days before our arrival. Probably the freezing of the water had occasioned this move, for we found on the ice marks of their having tried to break it. They seemed to have made their journey to the south in troops of eight or more, and their path was plainly recognisable on the glittering snow. They walk one behind another, each stepping in the footprints of his front rank man, and in this way broad trampled impressions had been made, in which the snow, melted by the heat of the fleshy footsoles, had afterwards frozen again to smooth ice. They had probably left with reluctance a region that had afforded them in superfluity their favourite food, the sweet nuts of the cedar; but the want of water had driven them all away, and our bear hunt consisted in nothing more than running about looking for the prints of their huge paws, and then, from their breadth, estimating the size of the individuals who had made them. Every day, as long as we remained at this spot, we searched the woods, climbed the neighbouring hills, and scrambled down into the ravines, but no creature but the grey squirrel enlivened the solitude, and it fled at our approach to the tops of the highest trees.

There can be scarcely any human beings in existence who stand on a lower grade than the Indians between the San Francisco Mountains and the great Colorado of the west. They are generally reckoned as belonging to the race of the Apaches, or, at all events, as akin to them; they are equally shy and mistrustful, and have the same thievish propensities, and all attempts to establish anything like a friendly relation with them have hitherto failed. The very sight of a white man seems to strike them with terror, but they will go creeping after him whenever they can to watch for an opportunity to shoot a few arrows at him and his steed from a safe hiding-place. Were they in possession of anything that might be turned to advantage by the whites, better-considered attempts would have been probably made for the civilisation of these savages, but they are utterly destitute, and distinguished from the beasts of the forest only by the faculty of speech. Their forms are dwarfed and ugly, and can hardly be otherwise considering the kind of food they subsist upon, chiefly the berries of the cedar, the edible nuts of a kind of pine (*Pinus edulis*), grass seeds, and the roots of the Mexican agave.

They have a great desire for flesh meat, indeed; but, as they are very bad sportsmen, notwithstanding the superfluity of game in their forests, they very seldom get any, unless they can succeed in stealing a beast from the people of New Mexico, or when a party of travellers are passing, wounding some straggling animal with their arrows, so that it has to be left behind. Captain Sitgreaves suffered several losses from a tribe of these natives known under the name of *Cosninos* or *Cochnichnos*, who used to slink about his herd, and at last send a whole flight of arrows among them. On one occasion, when three of his mules were killed, he ordered the soldiers to fire on the savages, but they were already almost beyond range, though a track of blood showed that at least one of them had got a lesson. We were now passing through the territory where Captain Sitgreaves had been so continually tormented by them, but we never so much as caught sight of one, or even came upon any fresh traces of them; the cause of the difference being doubtless that his journey was made three months earlier than ours, at the season when the natives were getting their harvest of nuts in the woods, instead of being driven away by frost and snow.

I was often warned by Leroux, however, not to go too far from the rest of the party, or venture with too much confidence into the ravines and cedar woods; and he corroborated his assertion of the necessity of caution, by mentioning some adventures he had had among these very Cosnino and Yampay Indians.

"It was when I was here with Captain Sitgreaves," he began; "we had been making a pretty good march one day, but as we hoped to find water, we meant to go on some hours longer. The long September days were in our favour, so we made a short halt to rest our mules, and allow some who had straggled behind from fatigue to come up with us. There was a range of hills in front of us where some scanty bushes had struck root between rolled stones and great masses of rock, and in order to have a look round me and make out where I was, and perhaps see signs of water, I climbed up a hill. Fortunately I had my rifle with me, for when I had got within five-and-twenty yards of the top, a whole shower of arrows came whistling about me. I was too near the treacherous rascals who had shot them to attempt to make my escape, and three of their arrows had hit me, though, fortunately, not so as to prevent my using my rifle. They were long arrows with stone points, and one of them had struck me behind the ear, another on the fore-arm, and the third in a very painful way just above the wrist, and the point had fixed itself between the two bones of my arm, though the shaft of course fell down. As soon as I had pointed my rifle, though I did so as quick as lightning, the savages vanished behind the masses of rock. I moved cautiously backwards, and called with a loud voice for my companions; when I turned my eyes away, the Indians glided like cats from stone to stone, and as soon as ever I lifted my rifle, hid themselves again behind something or other. Several times, indeed, I could have found an opportunity of shattering one of their skulls, but I was cautious of delivering my only shot, as I should then have had the whole troop upon me. This game of hide and seek could not, however, have lasted much longer, when some of my comrades having heard me call, hastened to my assistance, and at the sight of them the savages took to flight. I sent a bullet after them, but with my wounded arm I could not take any very good aim, and I shattered the arm of one of them instead of his treacherous head, as I had intended. My wounds on the head and the upper part of the arm healed very soon, but the arrow point over my wrist could only be drawn out with the utmost difficulty. I could not use my arm again during the whole journey, for wounds made with sharp stones are more difficult to heal than when made with iron.

"Another time," he continued, "I was with several comrades in this country catching beavers. We had not seen any signs of the Indians for so long, that we had grown quite careless, and one evening we lay down to sleep on the grass with our mules grazing near us, and when we woke in the morning, to our great dismay the mules were gone. The marks left behind left us no doubt at all as to how they had gone; and we knew that if we followed the thieves directly, we should have very little chance of coming by our own again, so we staid at the place a whole day, before we set off in pursuit of our beasts.

"The Indians, when they found we did not follow them the first day, began to feel safe, and could no longer resist their appetite for mule's flesh, and this enabled us to catch them. We managed to travel in the night, though it was not very easy, and in the darkness we often lost the trail, but we found it again and went on. In the middle of the second night of our journey, when we had begun to give up all hopes of seeing our animals again, we perceived from the top of a mountain ridge a small fire in a ravine, and feeling sure it could be made by no one but the thieves we were looking for, we took our measures accordingly. We crept from various points cautiously towards the fire, and then at a given signal sprang out upon them with a tremendous yell. The Indians seemed to have no notion of resistance, but disappeared instantly in the darkness, and we found all our mules but one tied to the nearest tree. The remains of the missing mule lay scattered about, and we caught one old Indian who was trying to roll himself away from the fire; but the creature had eaten such a quantity of mule's meat, that he was hardly able to move. If he had been a stout young fellow, we would have shot him without any ceremony, but as for this miserable old rascal, we contented ourselves with giving him a few cuts with a leathern thong on his bare back."

These experiences were communicated by Leroux with a view of making me more cautious in my excursions, but it is not easy for an enthusiastic sportsman to be kept back by such considerations. If our people in general, however, had been more cautious, some of the Mexicans would not have had to pay with their lives the forfeit of their temerity.

On the 7th of January, Lieutenant Whipple and his people at last returned to us. He had not found the country positively inaccessible for waggons, but his report as to the nature of the ground did not sound very favourably. The snow, he said, did not extend much beyond where we were, but when it ceased, a rough lava-covered ground succeeded, from which our mules, shod as they were, would probably have much to suffer in their hoofs. The case was not so bad with respect to the sheep, as those that fell lame and could not be driven on, might be slaughtered at each camping place for the rations, but it was necessary to be sparing even with these, as the animals had lost so much weight by bad feeding during the journey, that more and more were required to make up the number of pounds of meat allotted for the rations of the Expedition. During our stay at New Year's Spring, the smiths were constantly employed in examining the hoofs of the mules, and shoeing them afresh when necessary; and after the return of the reconnoitring party, the same thing had to be done for their animals, so that we did not start again on our journey till the 9th of January.

As the country declined, and we went mile after mile down hill, the snow decreased, and by noon it was entirely gone, though some woods of the fir species still wreathed about the ravines and chasms that intersected the ground in all directions. It seemed now that a wide undulating plain stretched out before us, but its continuity was only apparent, for we continually came to deeply-hollowed rocky clefts, which tried the capabilities of our cattle to the utmost to get across. These difficulties, in addition to those of bad food and unfavourable soil, were almost too much for them, but we had special occasion to observe how far preferable the mule is for journeys of this kind to the horse, for with the same amount of labour and hardship, our last horse by this time would have perished, whilst we were now only obliged to set the weakest of the mules free from work and let him run by the rest.

We passed the night at a spot due north from the Bill Williams' Mountain, and ten miles from its base. The ravine, which was chosen for our halt on account of its abundant supply of water, began here, for in the rainy season the water flowing into it from neighbouring districts had worn a deep hollow in the ground, and in their fall had formed a funnel which at our arrival was full of water and covered with ice, though as far as the eye could reach there was not the smallest pool beside in the whole ravine. The precipitous walls consisted almost entirely of black lava, and blocks of it lay scattered along the bottom; and as the ravine could not well receive a more appropriate designation than Lava Creek, it was so baptized for all time. We had now for a considerable extent the same scenery, the same rough ground, the same deep ravines, lava fields, and volcanic hills. Here and there we saw solitary specimens of the black-tailed deer and the antelope, and more frequently wolves and cayotas announced their presence by howling and chattering as they prowled around us in the scanty cedar woods; there was a dreary character in the whole landscape that gave us little hope of any better pasture for our cattle, but we plodded on, paying what attention we could to the objects that fell within our several departments, and the viameter marked with unvarying fidelity the number of miles traversed.

After leaving Lava Creek, the next place that deserves any mention is Cedar Creek, a tolerably broad valley, richly grown on either side with cedar woods, whence the small river or brook, which seems to contain water only in the rainy season, has received its name. Four miles before Cedar Creek the country begins to decline so rapidly, that there is a difference of 700 feet in this tract, namely, 183 feet to a mile; the fall also is not equally distributed over the whole extent, but includes some very steep descents, down which it was very difficult to bring the waggons safely to Cedar Creek.

After this, we still continued to descend, at the rate now of only forty-one feet to a mile, till on the 11th of January we reached the dry rocky bed of a stream that turns in many windings towards the south-west. At first we took it for the Bill Williams' River, which rises in the mountains of the same name, and flows towards the Great Colorado; but we became convinced afterwards that we were mistaken, and called it Partridge Creek, from the numerous pretty creatures of that kind, with their splendid head ornaments, that adorned its steep rocky shores. It was not easy, however, to identify a river of which we knew only the mouth, and presumed to have its source in the Bill Williams' Mountains. All else that we knew concerning this river rested on the narratives and the testimony of a certain trapper, denominated Bill Williams, who, coming down the Great Colorado, had discovered the mouth of a river near some village of the Mohave Indians, and had followed it up to the neighbourhood of some mountains, which were also called after him by the western hunters, until at last his name found its way to the newest maps. At present, it would be no easy task to determine the exact geographical position of the Bill Williams' Fork.

The banks of Partridge Creek were high and abrupt, but the adjacent ground looked so unfavourable for our purposes, that when we found a tolerably suitable place for getting down into the bed of the stream, we pitched our camp there at a spot where the water was not quite dried up. This was as far as Lieutenant Whipple had come, so that it was now necessary to stop and ascertain the possibility of continuing our course along the bed of the stream, or of leaving it conveniently if we could not, which appeared a more uncertain matter than the first, from the towering height to which the banks now rose.

CHAP. X.

DEPARTURE OF THE RECONNAISSANCE PARTY. — PARTRIDGES. — PICACHO. — VOLCANIC GROUND. — MOVE OF THE MAIN BODY. — CHINO VALLEY. — FAILURE OF THE RECONNOITRING PARTY TO MAKE ITS WAY THROUGH THE MOUNTAINS, AND MEETING WITH THE EXPEDITION AT PICHO. — RENEWED ATTEMPT TO DISCOVER A PASS. — LEROUX'S NARRATIVE OF COLONEL FRÉMONT'S FOURTH JOURNEY. — DESTRUCTION OF FRÉMONT'S EXPEDITION — HIS RESCUE AND ARRIVAL IN CALIFORNIA.

LEAVING the train of waggons behind, Lieutenant Whipple now set out again with an exploring party, of which I formed one. It was nearly noon on the 12th of January when we left the camp and took our way down the ravine, and a short ride took us out of sight of the tents, and into a hollow basin, surrounded by high rocky walls. The bed of the river could not, it must be owned, be called a positively good road, though comparatively with the ground we had ridden over for the last few days it might be called so. A few stunted bushes and a little grass made their appearance here and there between the clean-washed stones and boulders, but the upright, broad-leaved cactus (*Opuntia*) attained its full growth in the chasms on the rocky banks. Hundreds of pretty little partridges * kept flying about us, but flew far off when a charge of murderous shot was sent among them. This partridge, which is about the size of a common tame pigeon, is distinguished by its beautiful grey and brown plumage, and especially by six or eight feathers, two inches long, upon its head, which are broad at the top and narrow below, so that when pressed together, they assume a club-like form. When the bird is frightened or on its flight, it carries this crest forward towards the beak, but at other times falling over the back of the head. These pretty creatures are as agreeable to the taste as to the sight, and we found them in such masses in Partridge Creek, that very few shots served to supply us all with an abundant dish.

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* *Callipepla Californica* (Gould); *Callipepla squamata* if the feathers of the crest are long and pointed.

We also saw the large grey wolf (*Canis lupus*, L.—*Var. griseus*, Richardson) crossing along the edge of the ravine, but he was very shy, and knew exactly how to keep out of the reach of our rifles.

We had ridden on till towards evening, when we came to a place where the banks were low, so that we obtained a free prospect over the environs on both sides of the ravine, and as there was water near, and towards the west lay a plain that appeared convenient for travelling, we made preparations for passing the night here. Closely-growing cedars, whose branches touched the ground, formed us a capital roof, and as we lay beneath their verdant screen we had a famous fire burning at our feet; the weather, though cold, was not more so than it often is in a fine autumn, a temperature that we found so much the more agreeable from having just left the wintry regions of the San Francisco and Bill Williams' Mountains. Due west from us, and lying quite apart from the ranges stretching north and south, at the distance of about twenty miles, lay an extinct volcano, formerly seen by Leroux, and named

Picacho* by him and his companions; in this direction only it appeared possible to penetrate further, and after two men had been sent back to Lieutenant Stanley, with instructions to follow with the whole Expedition as far as this spot, we left Partridge Creek on the 13th of January, and journeyed on.

The ground was hilly and rugged, alternately bare and covered with light cedar woods; but we did not come to any obstacle that would have been formidable for the waggons until we approached the Picacho, where we were frequently checked by the deep beds of ancient lava streams from the neighbouring volcano, which had furrowed the country adjacent to it in many directions. Where several of these deep furrows met, or where the fluid lava had made a sudden turn, we found places where we could not only cross with our pack mules, but where the waggons also, with due caution, might effect a passage. Several times we came to clear springs trickling, somewhat sparingly, out of the black rock, and by the afternoon we found ourselves not far from the base of the Picacho, with that mountain lying due north of us. Here, however, our progress was suddenly arrested by a deep precipice, which it was impossible even for unladen mules to get down safely. In the depths below, an apparently smooth valley extended north and south to where the horizon was bounded by misty mountains. There were some ravines running from the Picacho into the valley, by which we knew we should be able to get down, but which way we were to turn after that remained to be discovered, for the other side of the valley was closed, about ten miles off, by a range of mountains, which did not appear to promise us any pass. The valley, indeed, extended far enough north and south, but it was our business to follow the straightest course, and not to go either southward to the Gila, or northward to the Colorado Chiquito. As the mountain chain before us seemed to decline a little towards the north, we resolved to make the attempt first in that direction, but we encamped for the night on a declivity, where we were in some measure protected from the cold west wind; where some scattered cedars offered us a tolerable shelter as well as fuel, and where water was to be found not far off.

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* Picacho is the Spanish-Mexican designation of every conical mountain standing apart from others.

When we had breakfasted on the following morning, we prepared for the descent into the valley, and Lieutenant Whipple sent off two more soldiers, with instructions to lead the Expedition to this spot. They were to make the march on foot, and at parting Lieutenant Whipple gave them a little stock of tobacco for the journey, recommending them if they met any Indians to smoke with them the pipe of peace. They answered, however, that they thought that they should prefer smoking powder and ball with the Indians, and keeping the tobacco for themselves, and shouldering their muskets, they stepped out stoutly towards the east.

We soon discovered a ravine that would lead us down, and after half an hour's ride over rocky ground, we found ourselves on what we now christened the Chino Valley. It was not quite as smooth as it had appeared from above, but the hollows worn by the waters from the mountain offered no serious hindrance, and we were able to ride on in a north-westerly direction towards a point that we noticed among the distant heights, without being compelled to deviate materially from the straight line. We rode on till the afternoon without stopping or even moderating our pace, and only taking an occasional shot at the antelopes that came trooping about us, and found ourselves then at the western end of the valley, where our progress seemed to be barred by round hills and mountains almost destitute of vegetation. Riding on towards the north, we came to a ravine, or rather a narrow valley, through which led, in many windings, the dry bed of a brook, and we immediately entered it and followed it towards the west. Withered grass and bushes covered the bottom, which widened and narrowed as the steep hills and rocks approached or receded from one another. We saw no water, and having therefore no reason for choosing any particular spot to pass the night in, continued our ride till towards dark. We then relieved our cattle of their burdens, spread out our blankets on the dusty ground, collected twigs enough to make a deplorable little fire, and therewith our preparations for the night were complete. Before the darkness had quite set in, we ascended the nearest range of hills to have a look round us, and found the prospect from above still more dreary than from the ravine. A desolate looking table-land, cleft by deep chasms, seemed to extend in all directions; here and there a crippled-looking cedar rose out of one of the chasms, but there were no signs of life in the wilderness, and we came down again to our camping-place to get what comfort we could out of our blankets, and forget the want of a good fire. We had to ride several miles on the following morning before the ravine opened into another less extensive plain or valley, also bounded to the west by a wooded mountain chain, on which were still some traces of snow. Our little party was distributed along the valley; one half going northward with the pack-mules, towards a ravine in which there lay some snow, whilst the rest took the nearest way to the mountains, in order to cross them at a high point, and obtain a prospect over the western declivity. Amongst the latter were Lieutenant Whipple, Leroux, and myself. The wind blew furiously over the plain, so that the antelopes, who here began to show themselves again, played about us undisturbed, for it was quite impossible to take aim in such a gale, and we soon found ourselves among wild hills at the foot of the mountains, and sought out a place where it was possible to climb up them, though the task was none of the easiest, for we had to scramble up rugged precipices, and over masses of rolled stones, until at length we reached a point whence we could see far and wide around us. The prospect was by no means encouraging, for it showed us a mere chaos of rocks, ravines, and boulders, and as far as we could distinguish objects with the telescope, the country wore the appearance of a wilderness impenetrable to our Expedition. No long stay was required to convince us that we must give up all thoughts of making our way in this direction, and we returned therefore by the way whence we had come, only keeping a little more to the northward, in order to fall in with our companions, whom we found occupied in melting snow for our frugal meal, but over a bright fire, for it could now be fed with dry cedar wood. Once more we climbed the nearest heights, to see what could be seen, but there was nothing in the conformation of the country to afford us consolation, or encourage us to proceed any further.

We pitched our camp round the trunk of a far-spreading cedar, the thick boughs of which kept off the snow that fell in small quantity during the night, and started again in the morning on our return to our chief camp, which we expected, by this time, to find at the foot of the Picacho. The snow had disappeared by the time we reached the next valley and the ravine previously visited, and we discovered what we had not found before, namely, a small pool that enabled us to water scantily the cattle, which had now for forty-eight hours had only snow to lick. We rode back the same way by which we had come, and soon saw before us the Picacho with its truncated summit and the cold masses of lava which still seemed to be flowing down its sides. The antelopes that had animated the valley on the preceding day were no longer visible, and all nature appeared dead; but at the spot where we had descended into the valley we saw, as we approached, light clouds of smoke curling up, and some objects in motion, which proved to be our companions, who had set up their domestic establishment there, and were awaiting us. When towards evening we reached their camp, we found they had got there a day sooner than we had expected, as they had not waited for the return of the soldiers sent to them by Lieutenant Whipple, but had set out again from Partridge Creek. Whether our messengers or the waggons had made a circuit instead of coming by the direct way, they somehow missed each other, and the soldiers were only made aware of the train having passed by seeing tracks of the waggon wheels, by which they were fortunately enabled to follow and overtake the Expedition the next day, without having suffered any further inconvenience than a scanty meal in the morning.

The 17th of January, the day following our arrival, was devoted to rest and preparations for a new excursion in a south-westerly direction. The wind, which was violent and bitterly cold, had got round to a quarter whence it blew directly upon the camp, so that we could hardly, by any means, keep ourselves warm; and it was therefore determined, after the departure of the reconnoitring party, to move the camp down into the ravine.

We were now at the height of 4867 feet above the level of the sea, therefore 1605 feet lower than Leroux's Spring in the San Francisco Mountains, and from there to here the distance was seventy-five miles. On the 18th, we again took leave of our comrades, and proceeded in a south-westerly direction towards the mountains. Our company consisted of the same members as formed the last reconnaissance party, and was provided with just as strong an escort; but Lieutenant Whipple had, in order to spare time and men, made an arrangement with those left behind, that when they should see a thick smoke at any place near the foot of the mountains, they should start and make for this point immediately; and we on our side agreed, when we had discovered a pass, to make a thick smoke by kindling some damp wood. This signal could not fail to be seen in the camp, as the tract between there and the mountains was level, and by this system a whole day's journey would be saved; as in the most favourable case we could not be separated from our companions by less than that distance. Though we left the camp rather late, we soon reached the dry river bed that runs from north to south through the Chino Valley; but as the water here had worn the ground more deeply than farther to the north, we did not find so convenient a passage. Before evening we were surrounded by cedar woods, in which we rode southward along the foot of the mountain as long as we could see, but we found no water, and made our bivouac in an open space where there was a little fodder for the cattle. In thick woods where there is abundance of dry fuel, you scarcely miss a tent even in the coldest weather; on the contrary, it is often more agreeable to stretch yourself by the blazing fire; one or another generally has something to tell adapted to the circumstances, and which for that reason interests every one, and you find pleasure in listening to stories even of the beasts of the forest, as you lie at your ease smoking, and looking up at the stars glittering between the dark branches overhead.

On this evening I was lying near Leroux, when he was talking of Colonel Frémont's fourth expedition, which was interrupted in so melancholy a manner, and the survivors from which Leroux had seen enter the town of Taos, where he lived.

In October, 1848, Colonel Frémont had set out on this enterprise, intending to proceed to the upper part of the Rio Grande; partly because the route to the Pacific had never been explored, and also because some mountain hunters had assured him of the existence of a good pass through the Rocky Mountains in that direction, and he desired to verify the assertion.

This time he had no support from Government, but engaged, at his own cost, thirty-three of his former travelling companions, whom he had ascertained in his preceding journeys to be well fitted for the undertaking. He also purchased 120 of the best mules, and laid in a stock of arms, gunpowder, and provisions, for a journey through the steppes and the territories of the hostile Camanche, Kioway, Apache, Navahoe, and Utah Indians. From the Missouri he went up the Kansas river; and after traversing 400 miles fell in again with Old Fitzpatrick, who, surrounded by thousands of Indians of various tribes, was then acting as agent for the United States with the wild inhabitants of the steppes, carrying on conversations with them, and making arrangements to secure protection and safety for emigrant travellers to California. Colonel Frémont remained a short time with Fitzpatrick, and learned from white hunters as well as Indians that the snow lay deeper than ever in the mountains. He continued his journey nevertheless, and reached the little town of Pueblos, on the Upper Arkansas, towards the end of November. Here he took fresh supplies of provisions, and maize for the mules, in order to be prepared for all accidents in the mountains; and also took with him an old trapper, named Bill Williams, to act as guide through the neighbouring territories. In a short time he found himself amidst the deep snows on the mountains, and worked his way onward, but very slowly and with extreme difficulty, the snow having filled so many of the passes that the journey of a few days took a fortnight.

Following the guidance of the aforesaid Bill Williams, who, great as was his self-confidence, seems really to have known very little of the country, Frémont reached the northern side of the Rio del Norte ravine, where tower up the wildest and most inaccessible masses of the Rocky Mountains chain. Bill Williams pushed on however, and the party gradually approached the watershed between the Atlantic and Pacific Oceans, where all tree vegetation ceases, and snow storms rage perpetually. In one of these storms Frémont was driven back in an attempt to cross this watershed, the first of his cattle perished from the excessive cold, several of his people had their limbs frozen, and the guide was with difficulty rescued from death.

Another attempt was made, and a path stamped in the snow, on which the troop followed step by step, exposed all the while to a furious tempest. One mule after another sank under his burden and had to be left behind; but at last Frémont reached the summit, 12,000 feet above the level of the sea. Here, where the gale continually swept the tops and sides of the mountains with such fury that no snow could lie on them, was the only place where the mules found any food, for lower down the snow lay six feet deep, and it became evident that there would be no possibility of saving the cattle. In a few days more Frémont's numerous and stately herd lay buried deep in snow, and the additional difficulty was imposed on him and his people of making their way without the help of cattle, a difficulty that became so much the greater that the courage of the men began to sink in the sight of the terrible end that in all probability awaited them.

In this distress Frémont resolved to return to the Rio del Norte, and thence send off a party to the settlements for provisions and mules enough to enable him to take the rest to Taos, where lived his friend Kit Carson, who had not accompanied him on this journey. Of those who volunteered for this service he chose four, and gave the command to a man named King, impressing upon him that if the smallest delay occurred he was to send back messengers immediately with provisions, for after the losses he had sustained he had only fourteen small days' rations for each man. King set out, and Frémont undertook to get down as much of the baggage as possible to the Rio del Norte.

It was a melancholy time for those left behind. The snow fell incessantly, the cold became more and more intolerable, and before long one of the men was frozen to death. Sixteen days passed in this way, and then Frémont, alarmed by the absence of all intelligence from King, and constrained by the want of food, decided to go himself to the settlements, as he feared that King and his companions might have been cut off by the Utah or Apache Indians. He then set out with four of his party, amongst whom was Mr. Preuss ; the adventurers carrying with them nothing but their arms, their blankets, and food for two or three days, whilst those left behind were reduced to three meals for each man, and a few pounds of sugar.

Frémont's purpose was to reach the Red River settlements, twenty miles to the north of Taos, and thence to send back the speediest help possible; and he left instructions in the camp, in case it should not arrive within a certain time, which could only be if he should have perished, that the men should endeavour to save their lives by following the way he had gone.

On the second day of his journey Frémont came upon fresh traces of Indians, which increased his anxiety for the fate of King and his comrades; and these traces led the way he was going, namely, towards the Rio del Norte. He followed them, and on the fifth day surprised an Indian who had lingered behind his troop to drink at an opening in the ice. He spoke in a friendly manner to the savage, and mentioned his name to him, whereupon the other made himself known as the son of a chief of the Utahs with whom Frémont had exchanged presents three years before, and immediately offered his services as a "guide," and even agreed to let him have four horses, though rather weak ones, for some trifling payment. Frémont and his men remained for the night among the Indians, and continued their journey slowly the following day. Towards evening, when he had gone only six miles, he saw some smoke rising from a little wood, and in the hope of finding there some succours sent back by King, who had now been gone twenty-two days, he and his four men made for the spot, and found there King's party themselves, but without King. He scarcely knew the three wretched men, so distorted and disfigured were they by famine; and on his inquiring after King, he learned that he had died some time before from cold and hunger, and that his comrades had sustained life on his remains. By help of the horses obtained from the Indians he managed to drag along the three survivors with him, and in a march of 160 miles in ten days reached Red River Town. He set to work instantly on his arrival to obtain help for the men left behind in the mountains, being zealously seconded by the indomitable Godey, one of his most faithful comrades, who had been constantly at his side in all these sufferings; and by the second evening he was able to send back forty mules and four Mexicans, with the brave Godey at their head, to the rescue of his old companions.

The twenty-two members of the Expedition who had been left in the snow, waited for seven days in the camp; when, urged by dreadful distress, they left it, and followed in the direction taken by Frémont. A Cosumne Indian was the first who completely despaired, and when only two miles from the camp begged his companions to shoot him, and when they refused, went back to the camp and died. Ten miles further a man named Wise became the victim of the same feeling, and throwing away his rifle and his blanket lay down in the snow and died; and two young Indians belonging to the Expedition wrapped the unfortunate man in his blanket and buried him in the snow. Two days longer the rest dragged on thus, when a hunter named Carver went mad, and in his paroxysm imagined he saw before him all kinds of savoury dishes. On the morning of the third day he wandered away from his companions, and soon found in the deep snow an end to his sufferings. Two more of the unfortunate band were left behind on this day; according to the agreement they had made among themselves, the others made a large fire near them and then passed on, but they felt sure that the two hunters, of whom one was snow blind, would not outlive the night.

The tremendous cold, and the accumulation of snow, had driven all the game away from that part of the country, so that travellers could only get a few birds now and then, and once a stag, which was not much among so many famished men. At last a hunter named Haler, who had in some measure assumed the command of the party, determined that it would be better for them to disperse, doubting in his own mind that any of them would be saved. He proposed to his companions that they should endeavour to reach a settlement by twos and threes, as if they were scattered they would have a better chance of meeting any help that might be coming to them, and would also be more likely to fall in with game; he pointed out that he had done all that was in his power for them, and that if it should be his fate to be eaten by his comrades, he would wish that he should first have lost his life on the march. In accordance with his wishes three divisions were formed out of the party, Haler himself being associated with five white hunters and the two Indian lads. One of the whites soon gave in, and could not be induced by Haler's most earnest entreaties to move on, but promised to follow in the evening. They went on, therefore, with the above-mentioned agreement, that if one of them sunk the stronger should not stop for him, but make a fire for him and then leave him to his fate. Two of the four were thus abandoned, the last only a short distance from the place where the two Indians who were in advance met with Godey, so that his life was saved, but the other had perished in the snow. The first who had fallen off from Haler's division had met with another consisting of eight men, and had gone part of the way with them, but afterwards like them been frozen to death. The last division had determined to lie down and wait for help, and feed meanwhile on the bodies of their starved comrades; or, if this resource failed, to shoot the weakest for the preservation of the rest. Such was the melancholy fate of Frémont's expedition. Two thirds of their number were saved through the exertions of the worthy Godey, but eleven men had met a miserable end, and lay scattered along the route on the places where they had dropped.

Frémont found an asylum in the house of his faithful friend Carson, at Taos, whither the unfortunate survivors followed him, many of them having lost their limbs from frost. He was in a position that might well have shaken the strongest mind. He had lost the entire equipment of the expedition, as well as one third of his companions, and the rest were in a crippled condition; he was far from his home, and entirely destitute of the means of reaching it. His indomitable energy, however, enabled him to effect what might appear incredible, and in a very short time he was at the head of a newly organised expedition and proceeding towards the Gila, the course of which he followed, and reached California in the spring of 1849.

He had, as I have said, become acquainted in 1847 with a tract of land called Mariposas, from which he now hoped to obtain some advantage. It is rich in gold; and the mines there are said to be more easily worked than in any other part of California, — besides being apparently inexhaustible.

Frémont, therefore, determined to work them; and entered into a contract with a number of Mexicans, who were to dig for him on condition of receiving a certain portion of the gold, whilst he on his part bound himself to provide for their subsistence. Whilst he was thus endeavouring to secure an independence for his family, he unexpectedly received from General Taylor, then President of the United States, the appointment of Commissary to the Mexican Frontier Surveying Commission; and as, after the unpleasant circumstances that had taken place, this proof of confidence from the Government was agreeable to him, he determined to accept the appointment, but was prevented by being chosen by the Californians as their senator for the Congress of Washington. He was not yet thirty-seven years of age when he received this flattering mark of respect; and soon afterwards he set out on his journey to the Capitol.

Leroux, in his narrative, entered into very minute detail of the pains of hunger, and of the mode of death of each of the unfortunate men who perished, for he had known personally almost every one, and had some anecdote or characteristic trait of each to relate, without sparing certain faults which are common amongst the hunters of the West; and I could have listened to him with interest as long as he liked to talk; but he himself warned me that it was time to rest, and throwing some fresh logs on the fire, and wrapping himself in his blanket, he fell sound asleep without any loss of time. I myself soon began dreamily to mistake the murmuring noise made by the mules who were cropping the dry grass near us for the continuation of his narrative, though I still heard the dismal hooting of the owls in the mountains, and the howlings of the wolves prowling in the ravines; but at last I too fell fast asleep, and heard none of them any more.

CHAP. XI.

TURKEY SPRING. — PUEBLO CREEK. — RUINS ON PUEBLO CREEK. — ADVANCE OF A DIVISION OF THE RECONNAISSANCE PARTY TOWARDS THE SOUTH, AND RETURN TO PUEBLO CREEK. — SPRING OF PUEBLO CREEK, AND PASS IN THE AZTEC MOUNTAINS. — THE WATERSHED. — SNOW STORM IN THE MOUNTAINS. — RETURN OF THE OTHER DIVISION OF THE RECONNAISSANCE PARTY. — JOURNEY OF THE EXPEDITION THROUGH THE AZTEC PASS. — YAMPAY CREEK. — ANOTHER RECONNOITRING PARTY SENT OFF. — CANON CREEK. — IMPRACTICABILITY OF THE GROUND. — PRESENCE OF NATIVES IN THE RAVINE.

THE sun shone brightly over the hard frozen ground and the frosted vegetation, as we pursued our way along the foot of the mountains, up and down the hills connected with the mountain chain; and we had not gone many miles before our attention was powerfully attracted by a row of cottonwood trees; and on coming nearer we discovered the dry bed of a stream that appeared to proceed from the mountains. Some closely-growing willows that we saw in a ravine led us to infer the neighbourhood of water; and we accordingly turned the steps of our mules in that direction.

As we rode through the long withered grass that covered an opening in the wood, we suddenly came in sight of a numerous flock of wild turkeys, which, startled at our approach, were running at a great rate towards a hiding-place. The shots fired among them were eminently successful; but when several of them fell, the rest spread their wings and flew away as fast as they could. The birds killed had fallen in the neighbourhood of water that gushed out of the ground over an area of some acres in extent, and turned it into a kind of marsh, with occasional pools ; only at one place did it flow bright and clear, towards the above-mentioned bed, and was there lost again after a short course. The turkeys we had shot suggested a name for the newly-discovered spring, which was forthwith entered in everybody's journal as Turkey Spring. At the place where we watered our cattle, and where natives appeared to have encamped only a few days before our arrival, we filled our leathern flasks ; and then, after a short rest, continued our journey. By our visit to Turkey Spring we had got deeper into the mountains, which much increased the difficulty of our progress. The heights that we had to cross were more abrupt, the ravines deeper, and as the chain of mountains ran in an easterly direction, and we had not changed our course, we were soon surrounded by them, though those lying towards the east might certainly rather be called hills.

We were now no longer on volcanic ground, but metamorphic rocks (*roches éruptives et métamorphosiques*), and stupendous masses of granite lay piled up around us, seeming to look down proudly like castles on the dark low forest beneath them, and blocks of white quartz with yellow veins reminded us of the gold-bearing quartz of California.

The whole scene appeared beautiful to us after our long journeying over the dreary, desolate, volcanic region, and our eyes rested with great pleasure on the lofty peaks, the dark-green pines and cedars, on the fantastic forms of the masses of granite, and on the long range of hills, vanishing at last in the blue distance.

We came to another row of leafless cotton-wood trees, but this time not on the banks of a dry river bed, but, to our great satisfaction, by a swiftly running stream; and as it must have made a long course from the mountains, it seemed very possible that its valley might be the pass for which we had been seeking so long. We found, however, when we could see tolerably far into the mountains, that the stream was more and more hemmed in by wild masses of rock, which threatened to prove formidable obstacles to the progress of our waggons; but we had one opening before us, to which we could return in case our further research should prove unsuccessful. We followed the stream, which as yet had no name, upwards to a gently ascending, almost treeless hill, from which we could obtain a better prospect over the nearest environs; and on this hill we found ancient ruins, from which we named not only the stream, but the whole range. Who could have imagined that even in such a remote, secluded spot as this, traces of the Aztecs would be found? But it was so, for we had before us the foundation stones of small buildings, that still lay in the order in which they had been placed by their builders. The walls, indeed, had entirely disappeared and left not a trace behind, from which we concluded that they had been built of Adobes, which in the course of time would be dissolved and washed away. The foundation stones lay in circles and ovals of from fifteen to twenty feet diameter, as if the walls that had stood on them had formed towers; and there could be no doubt about the place or the origin of the masonry, as we found about the usual painted fragments of pottery—though in no great quantity, as if only a small part of the town-building nation had inhabited this fruitful district; but the place was admirably adapted for a settlement, for the Pueblo Creek watered a charming little valley, that, by its situation and its fertility, might well have tempted the former inhabitants of these ruins to plant a town in it.

We crossed the Pueblo Creek, whose breadth varies here from ten to twenty-five feet, and sought on its southern bank for a path into the mountains, in the hope that, by keeping to the south, we should discover some valley or pass by which the chain was broken. After working up to a height of 200 feet before it was possible to pursue this course, we found that we had before us the primeval wilderness, untouched, unchanged, apparently as it came from the hands of the Creator.

It was not, however, the grand primeval forest such as may be seen more to the East, nor the dreary deserts characteristic of this mountain chain; but low cedars, and scattered oaks and pines, growing as irregularly as if they had been flung there at random among fantastically formed rocks, and masses of rolled stones, that had much the appearance of masonry. The utter deathlike stillness of this solitude, where every word spoken, and every footfall, were distinctly re-echoed, had something in it strangely oppressive. Even the animals appeared to shun the place, and to betake themselves in preference to the pleasant valley of the Pueblo. The only creature we saw was a skunk (*Mephitis mesoleuca* Lichtenstein), which looked very cross at us, holding up its shaggy tail, and threatening us with the weapon wherewith nature has armed it; but two of our Mexicans, disregarding its menaces, killed it from a distance with stones. A shot might have injured the bladder, and allowed the overpowering fluid it contains to escape, by which the skin would have been rendered utterly useless for my collection. The plan was quite successful, and though the process of skinning it almost took my breath away, I secured as fine a specimen as could possibly be obtained. The creature was black and white, and the colour so distributed, that it looked as if it had been originally quite white, and had dyed the under half of its person, from the mouth to the tail, by swimming through some black liquid. The long fine hair that adorned it, especially on the tail, where it waved like a banner, gave the animal a very handsome appearance, and one could not but wonder why Nature should have armed so otherwise charming a creature in so extremely unpleasant a manner.

Our path grew wilder and wilder as we penetrated further into the wilderness; and we went down into deep ravines and up steep declivities till we came to what looked like an old Indian path, which we descended till we came to where a small spring gushed out of the ground and trickled through a narrow bed, but was soon lost again in the arid soil. Since the mountains rose high before us, and we could not hope to come soon again to water, we made our preparations for passing the night, and then climbed up the nearest mountain to look out; but an uninterrupted rocky wilderness surrounded us on all sides, so that we had to give up the hope of finding a convenient pass, and determined to return on the following day to the Pueblo Creek, and make our way to the West by proceeding up the stream to its source. Not far from our camp we discovered an abandoned hut of the natives, a wretched attempt at a shelter, from which we could well infer the low state of culture among these savages. It consisted of pieces of bark placed leaning against each other in the form of a tent about three feet high, and four feet in diameter, without apparently any attempt having been made to close the wide openings between the pieces, so as to keep out wind and weather. It must have been a summer abode of the Tonto Cosnino or Yampay Indians, who live the greater part of the year on the roots of the Mexican agave; for we found near the hut some remains of this plant, as well as the place where it had been cooked.

The root of the agave, which consists of a thick tuber, is placed between hot stones in a hollow in the ground, and covered closely with earth. All poisonous or acrid properties in the root are supposed to be removed by this process, and there is left a sweetish and not ill-flavoured mass; but some members of our Expedition, who ate some roasted agaves, had their mouths sore for some days afterwards. Being limited to such means of subsistence as this, very few of these Indians can live together, if they wish to avoid the risk of great hunger; and, accordingly, we found scattered about in various remote corners, traces of small troops of them, or of single families, who evidently dragged out their wretched existence thus apart.

We set out, on our return, at an early hour on the following morning, and a brisk march of two hours brought us to the place where we had to descend into the valley of the Pueblo Creek; and as soon as we had crossed the somewhat difficult ford to the other side of the stream, we hastened to light a great signal fire, to intimate that the train must direct its course to this spot. As it had, however, to travel two days in order to reach it, Lieutenant Whipple sent off two of the Mexicans to meet it, and lead the waggons by the best way, whilst we ourselves struck into the ravine. The many windings of the stream, and the small lakes, marshes, and islets formed by it, delayed us a good deal; but we got at last upon firmer ground, where, if we only avoided the thick parts of the wood, there seemed likely to be little difficulty in getting the waggons through. Our joy, however, was of short duration, for the two ranges of mountains, which at the entrance of the ravine stood far apart, forming an imposing rocky portal, and even leaving room for some wild pyramids to rise between them, now approached nearer and nearer, and soon came so close that the stream could hardly make its way between them, and had to wind round their foot. The hindrances to the progress of waggons appeared to be almost insurmountable; trees would have to be felled and hills cut through; but as we were still ascending, we hoped soon to reach the watershed, and then we should see what prospect there was for us on the western declivity of the Aztec Mountains, as we had named this chain. An Indian path that led up the stream proved very convenient to us, and riders and beasts of burden passed up it, one behind another; but the stream became less and less, and the windings increased in number, so that we found ourselves sometimes on one bank, sometimes on another, as the natives had found advisable in making the path.

After a toilsome march we reached the last spring of the Pueblo Creek; but we could still trace the dry bed of the stream up a hill of two hundred feet high that lay before us. This hill we saw must form the watershed;

but since on its eastern declivity we were protected from the cold north-west wind, we determined to pass the night there, and examine the western face of it and the environs on the following morning. We climbed the hill, however, before dark, and to our great joy saw a level country spreading out towards the west. Jagged mountain peaks bounded the distant horizon, indeed, and extinct volcanoes at no great distance indicated rough ground; but it was highly satisfactory to us to discover, only a few hundred yards from the sources of the Pueblo Creek, new clefts and furrows pointing out the commencement of a stream, whose bed lost itself to our eyes in the far West. A pass through the Aztec Mountains was found therefore, though waggons could not be carried across it without immense labour; still the obstacles were of a kind that sufficient exertion could overcome, and they lay more in the ruggedness of the surface than in the actual conformation of the ground; the last mountain only was so steep as to threaten terribly hard work for the cattle.

Content, for the present, with these conclusions we went back to the little camp, which we had pitched under some close cedars. The air was cold, the sky cloudy, and the whole region wrapped in impenetrable darkness.

The fire, fed by resinous wood, threw a red light on the slender trunks of the nearest pines, moss-grown rocks, and exuberant though dwarfed cedars; and as we sat crouched together about the pile, profiting by its bright light to enter the occurrences of the day in our journals, some flakes of snow fell through the boughs of the cedars upon our newly-written pages, and we saw that snow flakes were whirling and playing about before the fire, as if objecting to fall into it. But it was late; we were wearied with the long day's march, and we wrapped ourselves up and soon fell asleep.

Towards morning I was awakened by a feeling of intolerable heat; the blankets lay so heavy upon me that perspiration was bursting from every pore; and at the same time I had such a sensation of oppression at the chest that I was alarmed, and thought I was certainly going to be ill. I threw back the covering that I had drawn over my head when I fell asleep, and then the matter was explained by the falling of loose snow on my face, and though it was still dark I perceived that I was completely snowed up. The wind was whistling around us, roaring through the ravines and breaking down and tearing up decayed trees, and furiously shaking the strongest trunks and closest thickets; and the snow was falling heavily, and was drifted by the wind in great quantities towards our hiding-place. Our whole company was soon awake, but no one ventured to get up; for as the snow had nearly stopped up the air-hole that each had left in his wrappages, and more than doubled the weight of his coverings, every one was as much overpowered by heat as myself, and it was thought better to avoid sudden contact with the cold air.

We all lay still, therefore, till day broke, and then we succeeded, after great trouble, in rekindling our fire and preparing a poor meal; but as the snow was still falling about us, we felt little of the beneficent warmth of the blaze, and our poor cattle fared still worse. They stood with averted heads behind masses of rock and bushes with the snow lying thick on their backs, and what was melted by the animal heat running down their sides in streams of cold water, which chilled them so completely that they were shivering all over, and hardly to be moved from the spot.

As we had waited long in vain for the snow to cease, the order for breaking up was at length given, the mules led forward, saddled and laden; and we then began to travel up the height, whence we had on the day before cast a glance over the western territory. But when we had reached the top, the gale drove the snow into our faces with such violence that we could hardly open our eyes, and any distant prospect was out of the question; we had to keep as close together as possible, that we might not be blown away. With great difficulty we managed to drive the cattle down against the wind, and reached the river bed that we had noticed the day before, which was now filled with snow. We followed it slowly, light pine woods surrounding us, but affording us little protection from the tempestuous weather. Some miles had been passed in this way when we came to a range of hills, between which led a pass, formed by the rather broad valley of the rivulet that rose on the Aztec Mountains; and after we had taken a somewhat cursory view of it we returned by the same way, but found the marks we had left in the snow completely effaced, so that we had to break a new path through it. It was some relief, however, that we had our backs to the storm. We now again crossed the watershed of the Aztec Mountains to our last camping-place, and proceeded some miles down the river, where we scraped away the snow from beneath some thick bushes, made a mighty fire, and spread out before it our blankets and buffalo robes. The snow had now ceased, and the sky had become clear and starlight; but the cold was so bitter that we could hardly keep it out, especially as, trusting in the continuance of dry weather, we had left many of our coverings behind us in the waggons; but the branches of fir proved of great service to us, for we spread them out on the ground to lay our blankets on, and stuck others round us in the snow to windward, so that we managed to get tolerable quarters for the night.

We had not felt it colder in the San Francisco Mountains, than on the morning after the fall of snow, though we were now 1191 feet lower than we had been there, and only 6281 feet above the sea. The air was bright and still, a thick frost hung on the trees, millions of little crystals sparkled in the sunbeams, and the snow crackled under the feet of our mules as we again approached the Aztec ruins. The very turkeys seemed to be suffering from cold, and cowering between the rocks and bushes took little notice of the shots with which they were saluted as the hunters came up. A little below the hill with the ruins, we discovered, on the banks of the river, a place that appeared admirably adapted for passing the night in, so we made up our minds to halt there, and wait the arrival of the waggons, which we expected would take place the following day. We were mistaken, however, for it was not till the morning after that this, the advanced guard, made its appearance, bringing us, however, a good account of the human members of the Expedition, and proportionably of the cattle also; and then it was not long before they were seen advancing, and preparations were immediately made for pitching the camp.

On the 23rd of January we undertook the march up the Aztec Pass, with the whole Expedition, and at first all went smoothly enough, but very soon all hands had to be summoned to clear away obstacles with pickaxes, axes, and spades. Very slow work it was, and when within about half a mile of the watershed, we were compelled to stop from utter exhaustion, as well as from the coming on of darkness. There had been a slight thaw during the day, but it froze again at night, and so arrested the melting of the snow.

On the 24th we prepared for crossing the highest point that lay before us before reaching the Pacific; and heavy work we had with the last mountain, but, as every one was in full vigour after a night of undisturbed repose, we set to work with a will, and in a few hours the last waggon rolled, and the last rider trotted, down the western declivity of the Aztec Mountains. I could not leave the spot without taking a sketch of the scene that presented itself as I looked back over the way we had passed. I could see along the whole length of the ravine, and quite clearly, the distant blue mountains that rose far away on the eastern side of the Val de Chino. The ravine, seen from above, looked like a long strip of pine-wood inclosed on both sides by high rocks and mountains. The snow, that still lay all around, enabled us to distinguish far off, the trees and shrubs that adorned the plateau here, covered with horizontal strata of stone, and the grotesquely-shaped towering masses of rock. Even in its wintry robe the scenery was beautiful, but must be far more so when the now leafless cotton-wood trees that border the Pueblo Creek wear their rich spring decorations, and a bright green serpentine line winds along the tops of the dark pine-woods. Towards the west nature wore a totally different aspect. When from the San Francisco Mountains we had beheld the chain of the Aztec, we had hoped, from their summits, to be able to discern the Colorado and its valley, but instead of that we had now again before us only wild mountains, intersected by dreary plains. North and south, as far as the eye could see, stretched the range that we had just crossed; in a south-westerly direction we saw extinct volcanoes, and due north elevated plateaus; due west, in the remotest distance, snow-covered ranges seemed to approach each other. It is scarcely possible that the foot of a white man ever trod this pass before us, and years may elapse without any one finding his way through it again; yet probably before ten years have gone by the panting and snorting locomotive will waken the echoes of these wild mountains.

The excessive exertions to which our cattle had been compelled during the past days, made it seem advisable now to content ourselves with a short march, and we therefore halted at the point to which we had penetrated two days before; proposing to continue our journey the next day in a north-westerly direction, over what looked like level country. The weather had suddenly become mild, the snow had all melted away, and as the ground, which had only been slightly frozen, readily received the water, the wheels of the waggons, and the hoofs of the mules, sank deep into it, so that on the 25th we toiled along very slowly on our march over an undulating plain towards the west. A low strip of forest before us, which we were approaching in a slanting direction, indicated a change in the character of the ground; and when we reached it we found ourselves before a regular steppe of more than a hundred feet deep, along which we had to travel a considerable distance before we could find a place where it was possible to get down the steep bank. It appeared that a torrent had here worn itself a bed, but the eastern bank only was of considerable height; the west rose little above its bed, and when we had travelled some miles along it, we perceived that the brook fell into a river, and we pitched our camp a few hundred yards from its rocky shores.

Since crossing the Aztec Mountains we had made a considerable descent, and the country to westward now looked very differently from what it had done from the heights. The fall of the ground we could still see clearly, but what we had taken at a distance for hilly country, proved to be rugged mountains, which were rendered still more toilsome and dangerous to travel over by the numerous and deep ravines by which they were intersected; and it became necessary to send out a new reconnoitring party to find, if possible, a better road. As there was some appearance of animal life in these regions, and both birds and quadrupeds, especially marmot-like rats, were not unfrequent, I remained behind with the main Expedition, as I would not lose any opportunity of enriching my collection; but Lieutenant Whipple set off at the head of a little mounted party, and took his way towards the west, after promising to send back messengers to indicate to us the way we were to follow.

The two days of rest that we were to pass at Yampay Creek we intended to devote to excursions in the environs, and, amongst other projects, Dr. Kennerly and I determined to explore the bed of this Yampay Creek as far as possible. In order to get down to it, however, it was necessary to go to the place where the brook on which we were encamped fell into Yampay Creek, since at every other part the walls of the valley were extremely steep, and did not present the smallest resting-place for hand or foot. The bed of the brook was from ten to twenty feet broad, and at present had water only in the lowest places, which were covered with a coating of ice. Trees, of various kinds, grew on its banks, but they were small, mostly crippled, and interwoven closely together by twigs and underwood. The breadth of the valley, from one rocky wall to another, was about two hundred yards, and within this space the river wound from one side to the other; but our attention was chiefly attracted by the rocks on either side, which were of red sandstone, and of the most wonderful structure, rising perpendicularly in blocks, slabs, columns, or whole colonnades. Numerous clefts and caverns were visible all along, and when we climbed into them, we found that nature had here constructed a whole labyrinth of chambers, corridors, and spacious saloons, almost all of which obtained light and air from above, so that an Indian could hardly have wished for a better dwelling. There were, indeed, obvious indications of Mezcal* eating natives occupying it at certain seasons.

We remained so long scrambling about in these caves, that, though we did not seem to have gone far, we could not find our way back; and though we came often enough to openings that led into the open air, we could see no way of either getting down into the valley or up to the plain. The height of the opening from the ground made a jump out of the question, and the rocks were too steep for even a Tonto or Yampay Indian to climb down. After long wandering about, however, we discovered a narrow opening like a chimney, through which we managed to climb up to the plain above; and then we found that the place where we had emerged into the upper world was a very little way off the camp. To return into the valley, we must again have made the same wide circuit as before, so, after all, our researches in the valley of Yampay Creek were limited to a very small portion of it.

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* Baked leaves of a species of Agave.

When we came out of our tents on the second morning, we were surprised by finding snow two inches deep on the ground, and as we immediately went out to look for traces of living creatures and follow them to their holes, we came into possession of a magnificently marked rat *(Dipodomys Ordii)*, which was distinguished as well by its fine white and yellow colour, as by its long hind feet and cheek pouches. Many wolves, it seemed, had been prowling about our camp in the night, though there was not one to be seen in the day-time; but we committed great devastation among the beautiful crested partridges, of which we discovered some families in the neighbouring ravines. By noon the snowy covering had disappeared from the ground, and it had assumed the old grey tint, varied only by the cedars which, sometimes singly, sometimes in small thickets, relieved the monotony of the desert landscape. Towards evening came news of Lieutenant Whipple, with instructions to break up the camp next day, and take his messenger as a guide; and at the place where Dr. Kennerly and I had got down into Yampay Creek we found means to get the waggons across, and then set forward briskly on our way, taking our course generally towards the west, though compelled by the many ravines to make frequent circuits.

In order to reach the place pointed out by Lieutenant Whipple as suitable for an encampment, we had to descend into a deep, rocky, river bed, very appropriately called Cañon Creek, to get out of which again we had to harness twelve mules to every waggon. The environs were more wild and rugged than at any point of our previous journey. Northward, at the distance of about two miles, rose stupendous table-shaped rocks, that made any advance in that direction impossible; and southward, also, lay mountains of an irregular form, but equally inaccessible: to the west, only, the mountains fell back a little, and seemed to leave, at all events, a possibility of a passage; but the ground between them was rugged and broken, and furrowed by a perfect network of chasms and old torrent beds.

In what direction we were to make our way to Lieutenant Whipple we could not even guess, though, in hopes of saving time, we made an attempt to get along the shore of Cañon Creek towards the south; but we were compelled, after a short march, to return to the place we had left, and there wait for further information from our reconnoitring party; for, in the direction we had seen, we could not even travel with unladen mules, far less with waggons, so rent and broken was the ground.

As on the sand, that covered most of the hollows, there were many traces of large hares, Dr. Kennerly and I went out in search of sport; we had tethered our mules on an open piece of ground, and then proceeded up the ravine, and a sudden turn in it soon hid from me both the mules and my companion; but the circumstance did not seem worth notice, and I was going along examining the ground closely in order to distinguish the old marks of hares from new ones, when I suddenly perceived that in one place the track of the hare had been trodden out by an Indian sandal evidently only a few hours before. I jumped as if I had seen a poisonous snake, for I knew that I might be surrounded in this place by enemies who did not know the meaning of compassion, and who might, from behind any of the masses of rock or chasms about, salute me with a shower of their dangerous arrows. Cautiously peeping into every corner, and getting my rifle and revolver ready for instant use, I commenced a retrograde movement; and when I turned round the corner perceived, to my great fright, that Dr. Kennerly's mule had vanished, and that mine, though still in her place, was giving unmistakable signs, by snorting and throwing up his tail, that he felt uneasy in his mind. I stood still, and was endeavouring to make out whether there were any savages lying in ambush, when I heard Dr. Kennerly's voice calling out to me from a neighbouring hill, — "Mount and come away directly." I obeyed, and was very soon by his side; and keeping our arms in readiness, we made as quickly as possible for the heights, where there were no treacherous lurking-places whence the savages might rush out upon us.

My comrade, I found, had, like myself, lost sight of the mules, but was called back by hearing their violent snorting. Thinking they had been frightened by a wolf or a panther he went to them, but found out his mistake when he discovered the traces of Indians, who must have hidden themselves the moment before his return behind some of the rocks. He mounted his mule immediately, and rode to a height whence he could see the ravine into which I had turned, and also cover with his rifle the approach to my mule; but the savages were probably alarmed by finding us so well on our guard, for a more cowardly race than these Indians does not exist.

When we were once more on open ground our anxiety vanished, for we were too well armed for them to show themselves. We had forgotten, in our eagerness for sport, the insuperable obstacles that opposed the progress of the Expedition; and when we got on the track of the waggons were much surprised to find that they had returned to the old camp.

A small wolf, and some birds that we had bagged, afforded us, in the skinning, occupation till the evening.

CHAP. XII.

TONTO INDIANS.—CACTUS PASS.—WHITE CLIFF CREEK.—"BIG SANDY."—BILL WILLIAMS' FORK.—THE GIANT CACTUS (CEREUS GIGANTEUS).—THE VALLEY OF BILL WILLIAMS' FORK.—THE BEAVER VILLAGE.—THE BEAVER.

We had just finished a meal at the camp when a loud shrieking noise that sounded like laughter reached our ears, and immediately afterwards some of our Mexicans, with two Indians whom they had caught, issued from the cedar thicket. The prisoners trembled under the firm gripe with which they were held, and passively allowed themselves to be dragged towards the watchfire, where the commanding officer of the escort, Lieutenant Johns, ordered some men to mount guard over them. They had been found by two of our muleteers in a cave, from which there was no way of escape, so that they were easily taken; but of course they were not detained with any cruel or hostile intentions, but only in order to make them show us the springs hidden in these mountains.

More repulsive-looking physiognomies and figures than those of our two prisoners could hardly be imagined. They were a young and an older man, somewhat below the middle size, but powerfully made; with large heads, projecting cheekbones and foreheads, very thick noses, swelled lips, and little slits of eyes with which they looked about as fierce and cunning as wolves. Their skins were darker than I had ever seen those of Indians, and their hair hung in wild tangled masses round their heads, though the usual Indian topknot, tied round with some pieces of stuff and leather, was not wanting.

The younger was dressed in a kind of cotton shirt, and wore torn mocassins and leggings; but the other had only some rags of a Navahoe blanket, which he had fastened round his body with thorns for pins. His legs and feet had no kind of protection from the sharp stones, thorns, and cactus prickles, unless the thick indurated skin, like buffalo leather, that covered them, might count for such, and render other covering superfluous. Their weapons consisted of bows five feet long, and reed arrows measuring three feet, and furnished with neatly-cut stone points.

The savages were brought to Lieutenant Johns' tent, and many questions put to them, but they could not or would not understand the signs made to them, but chattered and moaned continually, and snatched at everything that was offered them, or lay near them, and stuck it into a kind of pouch or girdle made of woven bast. One could hardly help asking oneself whether these two wretched creatures, who seemed to have no other intelligence than a sort of monkey-like curiosity, and no other feeling than selfish fear, could be really human beings in whom glowed a divine spark that only needed to be fanned for them to become useful members of civilised society. One cannot but feel some doubts about it, though their appearance certainly excites compassion.

After many vain attempts to get out of these Tonto Indians information about the character of the country, they were taken back to the watch-fire, and given into the charge of a soldier and two Mexicans, who were to prevent their escaping, but not to fire upon them if they attempted it. As the evening wore on, the curious spectators who had collected round them gradually dropped off, so that at last only the sentinels were left with them. The captives had been sitting quite passive, without manifesting the smallest inclination to move, —probably in order to lull the vigilance of their guards,—but now the moment they took their eyes off them, they sprang up like lightning, and rushed to the neighbouring thicket. The younger had made such an immense leap that it had carried him out of reach, but the other was brought back, and since it was a very important point for us not to lose sight of him, we fastened him, by means of a long chain and a padlock, to a strong stake in the ground; a bayonet was then held to his breast, so that the sharp point touched the skin, and he was given to understand that it would be driven into his breast if he again attempted to escape. Of course this was only said to frighten him, and he contemplated our proceedings merely with a kind of vacant curiosity, and gave us to understand, by occasional moaning sounds, that he did not enjoy being in our company; but he ate the food offered him, put the presents into his pouch, and then curled himself round like a dog, and lay down before the fire and slept till the next morning.

The attempt to obtain some information from him was then repeated, but completely frustrated by his obstinacy, or his real stupidity; but the arrival of two Mexicans, sent back by Lieutenant Whipple to guide us to his camp, put an end to his examination, and the savage was dismissed with some small presents, and the sign for breaking up given. The Mexican messengers had travelled all night, for fear of being attacked by the Indians; but their fatigue was unavoidably disregarded, and they were ordered to the head of the procession, and took their way towards the west. We had about two miles of wild, impracticable sort of country, and then we entered on a plain, about a mile broad, which extended in a curve towards the south-west. The way through this was not bad, but it ended in high rocks, and accumulations of granite boulder stones, over which it was no easy matter to drag the waggons. The riders, however, made their mules climb up a narrow ravine, like a staircase, which in the rainy season must form a magnificent cascade, for this narrow pass forms the only outlet for the waters of the whole plain. The ravine opens into a valley, in which a brook winds through narrow meadows, rising with an abundant supply of good water, exactly at the foot of the rocky staircase. We passed the night at this place, though we had not gone more than six or eight miles, for some of our pack-mules were so exhausted that we were obliged to have them shot, and also to leave two of our waggons behind, and it was deemed advisable to husband our strength for marches that could not be shortened. We had here good water and good grass, and there seemed no reason why we should immediately leave so inviting a spot, to strike out at random into the savage wilderness. High rocky country surrounded us on all sides, and we succeeded in getting many interesting specimens of the birds that animated the ravine.

On the following day we had almost constantly a good road, and though we were continually between cedar-wooded hills, we passed from one ravine to another without any difficulty. These led so regularly upward, that we found we were rising, on an average, sixty-one feet to the mile. In the afternoon, we came up with Lieutenant Whipple and his reconnaissance party, just as we were about to descend from a mountain side into a deep-lying valley below. The pass in which we now found ourselves was named Cactus Pass, at the urgent request of Dr. Bigelow, because he had found numerous specimens of this, his favourite plant; amongst other species the gigantic *Echmocactus Wislizeni*, many of which stood about among the rocks, looking like huge casks or barrels.*

On each side of our camp there rose separate mountain peaks, still partly covered with snow, and we climbed part of the way up some of them, in hopes of getting a glimpse of the Colorado, but nothing met our eyes but a deep, broad, uneven valley, through the middle of which passed the apparently dry bed of a river, and on the other side of which an uninterrupted chain of mountains stretched to the blue horizon far away, where they mingled with and were lost in others still loftier.

We were now evidently at a considerably higher level than the country lying towards the west, for we were able to distinguish, in a sort of half bird's-eye view, the various ranges of mountains which, almost all, extend from north to south. The Great Colorado of the west could now not be far off, in a straight line, perhaps four or five days' journey; but the dreary wilderness before us had so repulsive an aspect, from the ruggedness of its surface, and its deficiency in water and pasture, that the plan of reaching the Colorado by pursuing a straight course towards the west had to be given up, so much the more as the severe labour and distress of the latter part of our journey had daily carried off some of our mules, and we had to be extremely careful of the strength of those that remained. In Cactus Pass we were obliged to submit to a new reduction of our baggage, and to leave behind some more of the articles not absolutely necessary.

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* The dimensions of the cacti (a group on which the Prince von Salm Dyck has thrown so much light) offer the most curious incongruities. The *Echinocactus Wislizeni* is four feet high and seven feet round, and takes the third place, with respect to size, after the *E. ingens* Zucc and the *E. platycerus* Lem.: *Wislizenus' Tour to Northern Mexico*, 1848, p. 94. See also Alexander von Humboldt's *Ansichten der Natur*, vol. ii. p. 177.

Since leaving the San Francisco Mountains, we had travelled 150 miles, but we could still see clearly their ice-and-snow-covered summits. It was for the last time, however, for our way now led down into a valley, and so steep a one, that all hands were in requisition to get the waggons down; some to clear away stones and bushes, or fill up ruts,—others, by means of ropes fastened to them, to prevent the upsetting of the waggons, or, what would have been worse, their falling over upon the mules.

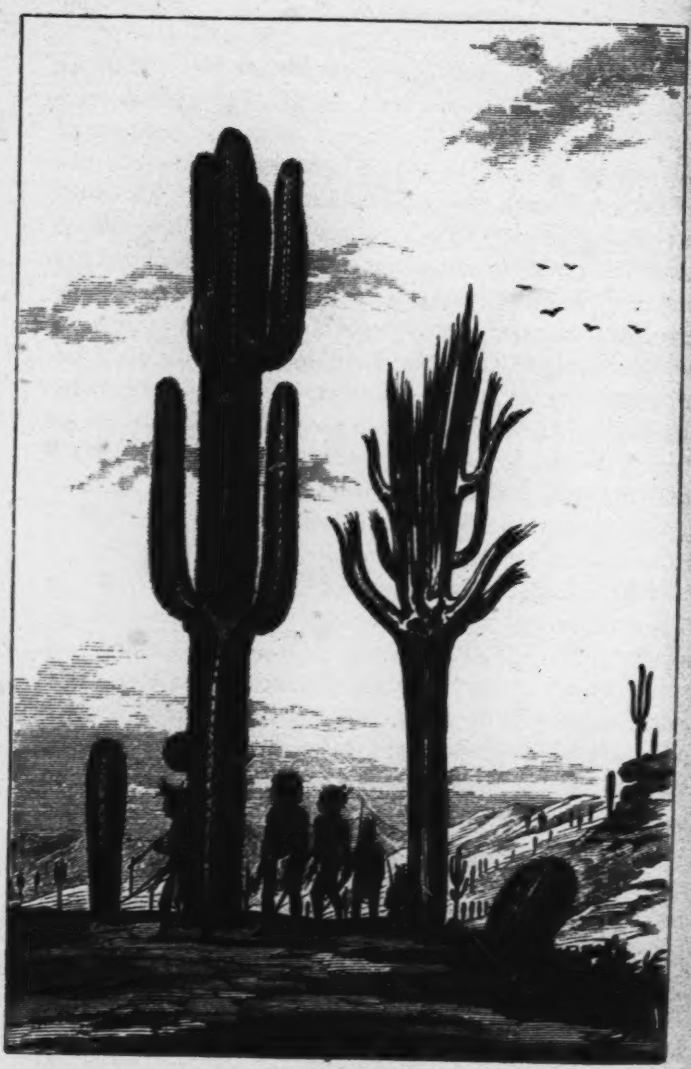
It was the 1st of February when we effected the descent into Cactus Pass, and it took the whole day, for the fall of the ground was 700 feet in the first mile, and in twenty-five miles, 1711. When we got to the foot of the mountains we turned to the south, and continued on this course till we came to a brook, called, from its white rocky banks, White Cliff Creek. There we pitched our tents, and since a day of rest was necessary after our late fatigues, and a reconnoitring party would again have to be sent forward, for the better guidance of the rest of the train, a halt was made, and

Lieutenant Whipple did not go off for the reconnaissance till the following day. Good water was the only advantage offered by Nature for our encampment in White Cliff Creek, and that was to be had only close to where it issued from the ground; for scarcely a hundred yards further, its bed was again dry and dusty. The mountains, which eastward of us extended north and south, appeared to contain minerals, for specimens of copper and lead ore were found by the people and brought to the camp, and the mountains themselves consisted of alternate granite and trap formations.

We followed our more advanced comrades on the 3rd of February, and had a toilsome journey, for if we proceeded along the cliffs, our course was perpetually obstructed by heaps of rolled stones; and if we chose the dry bed of the river, the draught-mules had the greatest difficulty in dragging the waggons, lightly as they were now laden, through the deep sand, a trouble that increased when we entered the mouth of this creek in the "Big Sandy," and made our way along it. (The position of this mouth is 35° 03′ N. L., and 113° 16′ Long. west of Greenwich.) At the southern end of the broad valley that we had seen from Cactus Pass, we were confined to the bed of the river; for while we had hitherto only cliffs on the left side, we found the "Big Sandy" inclosed also by bare mountains on the right. We toiled on till towards evening, and then encamped on the banks of the river bed, under some wild bushes, at a place where the paths of Indians and of wild beasts leading together into a ravine, indicated the presence of a spring. We easily found it, though it lay very remote from our tents, but here, as in the last spring, the water was visible only for a short distance above the surface of the ground, and in quantity only just sufficient to water, at most, six or seven mules at once; and in order to avoid too great loss of time by this tedious mode of watering the cattle, we set off very early the following morning, and proceeded along the river bed to where it opened into a broad valley, shut in by rocks towards the south. We needed not, however, to proceed further in that direction than the foot of the rocks, for the Cañon Creek, the main branch of the Bill Williams' Fork, here burst, clear and bright, from the eastern mountains, and showed us in its valley a way that soon led us to the Bill Williams' Fork, and thence proceeded to the Great Colorado, which our reconnoitrers had already reached. Where we first struck the Cañon Creek, its breadth varied from ten to twenty feet, some cotton-wood trees stood here and there upon its banks, and mezquit and withered bushes partly covered the valley. As far as we could see, towards the south-west, its inclosure was formed by rocks, and high stony mountains or low hills, whose vegetation consisted solely of scattered mezquit bushes and cacti. The fine fresh water of the river was too inviting, and the thirst of the animals too great, for us to think of moving on immediately, but as the day was not far advanced we passed into the valley, and travelled five or six miles further, without much hindrance. When we stopped and looked about for a suitable camping-ground, however, we were much annoyed to discover, instead of a swiftly flowing stream, only a dry river bed and drifting sand, and we had to send back some mounted messengers to fetch as much water as was positively necessary.

A mild spring breeze was blowing here, which, though the trees and shrubs were still bare, had covered the ground with fresh grass, that was eagerly cropped by our cattle. We were now only 2000 feet above the sea, and the ground was declining rapidly towards the Bill Williams' Fork. A march of a few miles brought us, on the following morning, to a place where the river suddenly made its appearance again, gushing out of the sand, and watering the valley over its whole breadth, moistening the roots of the cotton-wood trees and willows, and sending forth new green shoots from amongst the dried reeds. We rested in this pleasant spot for some hours, and then went on again till late in the evening. This day we saw, for the first time, the giant cactus (*Cereus giganteus*), specimens of which stood at first rather widely apart, like straight pillars ranged along the sides of the valley, but afterwards, more closely together, and in a different form — namely, that of gigantic candelabras of six-and-thirty feet high, which had taken root among stones and in clefts of the rocks, and rose in solitary state at various points.

This *Cereus giganteus*, the queen of the cactus tribe, is known in California and New Mexico under the name of Petahaya. The missionaries who visited the country between the Colorado and the Gila, more than a hundred years ago, speak of the fruit of the Petahaya, and of the natives of the country using it for food; and they also mention a remarkable tree that had branches, but no leaves, though it reached the height of sixty feet, and was of considerable girth. We touched, on our journey, the northern limit of this peculiar kind of cactus, which from there extends far to the south across the Gila, and is also frequently found in the State of Sonora, and in Southern California. The wildest and



Cereus giganteus.

most inhospitable regions appear to be the peculiar home of this plant, and its fleshy shoots will strike root, and grow to a surprising size, in chasms and heaps of stones, where the closest examination can scarcely discover a particle of vegetable soil. Its form is various, and mostly dependent on its age; the first shape it assumes is that of an immense club standing upright in the ground, and of double the circumference of the lower part at the top. This form is very striking while the plant is still only from two to six feet high, but as it grows taller, the thickness becomes more equal, and when it attains the height of twenty-five feet, it looks like a regular pillar; after this it begins to throw out its branches. These come out at first in a globular shape, but turn upward as they elongate, and then grow parallel to the trunk, and at a certain distance from it, so that a cereus with many branches looks exactly like an immense candelabra, especially as the branches are mostly symmetrically arranged round the trunk, of which the diameter is not usually more than a foot and a-half, or in some rare instances a foot more. They vary much in height; the highest we saw at Bill Williams' Fork measured from thirty-six to forty feet; but south of the Gila they are said to reach sixty; and when you see them rising from the extreme point of a rock, where a surface of a few inches square forms their sole support, you cannot help wondering that the first storm does not tear them from their airy elevation.

Inside the fleshy column, however, it is provided with a circle of ribs, each from an inch to an inch and a-half in diameter, reaching to the summit, and of as close and firm a texture as the wood of the cactus usually is[*]; and these enable it to defy the storm. When the plant dies, the flesh falls off from the woody fibres, and leaves the skeleton of the giant standing sometimes for years, before it too becomes the prey of corruption. The trunk of the cereus, as well as its branches, is notched from the root to the tip, at regular distances, and the structure of the outer surface gives it a certain resemblance to an organ.[†] The edges are closely set with tufts of grey prickles, at equal distances between which gleams out the bright green colour of the plant itself; in May or June, the tops of both branches and trunk are adorned with large white blossoms, which are replaced by pleasantly tasting fruit in July and August. When dried, this fruit strongly resembles a fig, and is a favourite kind of food with the Indians, who also prepare a syrup from it by boiling it in earthen vessels.

If the smaller specimens of the Cereus giganteus that we had seen in the morning, excited our astonishment, the feeling was greatly augmented, when, on our further journey, we beheld this stately plant in all its magnificence. The absence of every other vegetation enabled us to distinguish these cacti columns from a great distance, as they stood symmetrically arranged on the heights and declivities of the mountains, to which they imparted a most peculiar aspect, though certainly not a beautiful one. Wonderful as each plant is, when regarded singly, as a grand specimen of vegetable life, these solemn, silent forms which stand motionless even in a hurricane, give a somewhat dreary character to the landscape. Some look like petrified giants, stretching out their arms in speechless pain, and others stand like lonely sentinels, keeping their dreary watch on the edge of precipices, and gazing into the abyss, or over into the pleasant valley of the Bill Williams' Fork, at the flocks of birds that do not venture to rest on the thorny arms of the Petahaya; though the wasp, and the gaily variegated woodpecker, may be seen taking up their abode in the old wounds and scars of sickly or damaged specimens of this singular plant.

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[*] See Alexander von Humboldt's *Ansichten der Natur,* vol. ii. p. 178. Those who have been accustomed to see the cactus only in hothouses would be astonished to find how close and hard the woody fibres become in old plants. The Indians know that cactus-wood is almost incorruptible, and admirable for oars and door-sills.

[†] "Au pied des montagnes de la Californie on ne voit que des sables, ou une couche pierreuse sur laquelle s'élèvent des cactus cylindriques (Organos del Tunal) à des hauteurs extraordinaires." —*Alex. von Humboldt, Essai Politique sur le Royaume de la Nouvelle Espagne,* vol. ii. p. 624.

The capricious river soon vanished again in the sand before our eyes, but before evening we reached a group of trees which had been visible to us the greater part of the day, where the stream, in all its abundance again, forced itself through a narrow bed. At one place that we had to pass, some one of Lieutenant Whipple's party had hung up a splendid specimen of a kite which he had shot, and I helped myself to its skin, though the mild weather had begun to produce a corrupting effect upon it. Near the bird we also found a letter from Lieutenant Whipple, in which we were urged to follow in his footsteps as quickly as we could, and we had little inducement to linger on our way longer than might be necessary. The trees and the shrubs were indeed putting forth fresh buds, the patches of fresh grass were becoming more frequent, and there was now always an abundance of excellent water near; but our cattle had suffered too much to be able to recover themselves in a short rest. Not a day went by without ou having to shoot, or leave behind, some of them; an one waggon after another was abandoned, and its loa distributed, as well as might be, on the sore backs o our poor beasts, so that we were every moment reminded to lose no time. We were threatened also witl another trouble; our flocks of sheep were diminishin rapidly, for 116 men had to get from them daily ration of meat, which it would not do to lessen, since th rations of flour had been diminished one half, an we could only calculate on using the mules for food i case of extreme distress, that we might not diminisl the means of transport for our papers and collections Game, with which we could have made an acceptabl addition to our dietary, was almost entirely wanting Partridges, indeed, hovered daily around us; and th fowl that covered the broader parts of the river, and th neighbouring marshes, and flooded meadows, made u many a savoury dish; but these resources were triflin in proportion to the numbers of our company, and ou appetites unluckily seemed to increase as our supplies diminished. There were sheep in the neighbouring mountains, and we caught sight of one occasionally, but the were excessively shy, and if pursued would frequentl plunge head over heels down a precipice; we could no boast of the capture of one of these interesting animals for we could never get even within rifle range of them There were, therefore, reasons enough why we shoul get on as fast as we could, if only in short marches towards our destined goal. We started again, on the 6th February, and, as usual, our departure was favoure by magnificent weather. As thick willow bushes surrounded us on all sides, we took our way slowly along the bed of the river itself, and at first the sand was very firm, but gradually it became unsteady, the valley closed in, and even if we had left the river, and endeavoured to force our way through the thick tangled growth of underwood, we should have gained little in the firmness of the ground, for the whole valley was standing in water. We soon found that this was an artificial inundation, for we came to a number of dams, constructed with so much sagacity and forethought that the water could not rise above a certain height, and at the same time that in the ponds could not decrease. We were now in a *beaver settlement*, and as my mule stepped cautiously through the deep water, I was amused by listening to the remarks of some soldiers, who imagined they saw in the ingenious structures before them the work of human hands, and rather hastily inferred, that they would now have no more half-rations.

It is scarcely possible, indeed, for any one who sees these dams for the first time, to believe that they are the works of any but rational creatures, for nowhere is there the slightest indication of ignorance of the power of water, and the strength required for a wall that is to resist its pressure. No single dam is exposed to it along its whole breadth, but the structure is placed diagonally to the stream, and raised till the water collecting before it is found sufficiently deep. Quite at the end of the dam an opening is left, just large enough to prevent the superfluous water from flowing over the dam and injuring it, yet not so large as to allow the water to get too low for building the separate dwellings.

The beaver is unfortunately so shy, that he can very seldom be seen at work, and the untiring industry of the builders can only be inferred from their works. In a beaver republic there are, it appears, two classes of works, namely, the public ones which are necessary for the welfare of the whole community, — such as the building of new and the repair of old dams, and the construction of the houses, which are built in stories, and so that the upper one rises above the surface of the water.

In the first, the whole population, without distinction of sex or age, takes part, and their united strength will effect what at first would seem incredible. Overhanging trees, of more than a foot in diameter, are skilfully gnawed off so far that they must break and fall in; and fresh relays of workers are then at hand, to gnaw away the branches and any part of the trunk that may remain attached to the shore, so that it may be easily floated down to its place of destination. Other labourers are there awaiting it, having gone on before with sticks, mud, and earth, in order to secure the floating logs without loss of time, and fresh materials are continually brought and constantly added and secured, till at length the dam rises like a wall above the water ; and the clever little builders, creeping along the top, smooth it with their broad tails, and so render it more solid, at the same time that they improve its appearance. Not till these public works are finished do the individual members of the community set about the erection of their private houses, in which no one concerns himself with the affairs of his neighbours, but consults his own wishes in the erection of his dwelling, and constructs a sleeping apartment above the surface of the water, where he can take his ease, while at the approach of danger he can slip below unperceived. These sagacious creatures also watch closely the height of the water; should it, through rains or any other cause, be increasing, some of the beavers go to the opening of the dam made to carry off the superfluous water, and enlarge it; or should a long drought occur, they close it partly, or altogether, as circumstances may require.

They appear in all things a peaceful, industrious community, perfectly understanding each other's actions; and in the whole proceedings of these harmless creatures, and of animals in general, as well as in the mysterious irresistible power by which the plant shoots forth from the germ, we are continually led to admire the wise laws of Nature, and bow before the great all-controlling creative power to which it owes its birth.

The peculiar sagacity developed in the beaver when it lives in society, is not displayed by it in a solitary state. In such cases it lives in a hole that it scrapes in the ground, and gnaws at trees and logs by a sort of blind instinct, without any plan or purpose ; and in a state of captivity, its movements are awkward and very unlike what they are in freedom, but if taken young it easily accustoms itself to human society. I had a good opportunity of observing the beaver, when, some time ago, I made a voyage from New Orleans to Bremen, taking with me two young specimens, which, by their friendly ways and mournful plaintive voices, very much resembling those of little children, used to amuse me much in the tedious time at sea. They were not sea-sick either, though a pair of huge grey bears, and some other beasts of prey, showed themselves very much indisposed, especially during a long continued heavy gale.

After passing the beaver village the valley of the river narrowed so much and made so many short windings, that we were compelled to seek for a way across the spurs of the nearest mountains. The valley, however, after a time widened again in a meadow half covered with long canes, and half with low grass; and this we thought would be a suitable place wherein to take up our quarters for the night. The bed of the river was here deeper, though not very broad, and the current was tolerably swift. Stunted trees grew here and there along its banks, and amongst them had sprung up some fresh grass, the harbinger of the approaching spring. We now found some traces of Indians, that is, the impression of the sandals of some men, who had gone down the Bill Williams's Fork to the Colorado; the tracks were some days old, and the natives, by whom they had been made, had apparently retired before Lieutenant Whipple.

We went on, on the 7th of February, in the accustomed order, following the winding bed of the Bill Williams's Fork, and after a few miles the rocks and mountains advanced so closely as to form a narrow ravine, through which a single way lay open to us. At first the difficulties were easily overcome, for the ground, though rocky and uneven, was firm beneath our feet; but we soon found ourselves so shut in by rocks, that we could not have turned if we had wished it. Our path was thickly covered with reeds and bushes, and when these did not hinder our progress, we had to pass over wild, deep, shifting sands that threatened to swallow both mules and waggons. The mules, as they waded through the water, felt the ground unsteady under their feet, and the wheels of the waggons, as they followed one another, sank deeper and deeper in, till they grazed their axle-trees, and at last could not be got on at all, so that there was no choice but to encamp. We had gone a very short distance this day, but we were compelled to yield to necessity.

Lieutenant Fitzball, with his escort, had gone in advance of the waggons, for having only pack mules he could make his way more easily along the sides of the mountains; but he had to be informed that no further journey was possible on this day.

I happened to be myself in his company at the time, and preferred availing myself of his hospitality to returning to my tent, and I employed myself till evening in the pursuit of the birds, that, in great numbers, enlivened the valley and the declivities of the mountains. The charming little humming-birds that glanced like emeralds as they flew busily about the opening buds, particularly attracted my attention, and I was fortunate enough to obtain some specimens. Large coveys of partridges rose in the ravines, and enticed me far into the mountains; and then I was induced to climb a lofty point to look about me. It was a rugged and desolate chaos of wild jagged mountain masses that surrounded me in every direction, and the lonely giant Petahayas, that rose here and there from cliff and mountain peak, rather increased than diminished the gloomy character of the scene. It was with no agreeable feeling that I gazed upon the savage wilderness before me, and I made my way down again cautiously, but with all convenient speed.

CHAP. XIII.

JOURNEY THROUGH THE VALLEY OF BILL WILLIAMS'S FORK. — DR. BIGELOW'S ARRIVAL IN THE CAMP. — NEWS OF THE RECONNOITRING PARTY. — ARTILLERY PEAK. — REUNION OF THE WHOLE EXPEDITION, AND CONTINUATION OF THE JOURNEY. — THE MOUNTAIN SPRING. — INDIAN PAINTINGS. — DIMINUTION OF THE BAGGAGE. — LOSS OF MULES AND WAGGONS. — ARRIVAL AT THE RIO COLORADO.

The day was far advanced on the 8th of February, when the train joined us, after having lost another waggon, and we continued our journey together. The country again opened on both sides, so that we could see far over a stony waving tract, and before us, at the distance of some miles, stretched a chain of black eruptive rocks, through which we could see, as through a gate, the place where the Bill Williams's Fork had broken through them. At a short distance from this rocky gate, amongst mezquit bushes so thick and close that we could hardly make our way to the river, we pitched our tent for the night. The road was now so difficult and circuitous that we could make but very short marches, and a very few miles in a straight line from one camp to another had taken us half the day.

On the 9th we passed through the rocky gate, and found on the other side another small plain, through which the river described a curve towards the north; its banks were pretty thickly overgrown with willows and cotton-wood trees, so that Dr. Kennerly and I, by following the course of the stream, succeeded in bagging a considerable number of ducks and snipes. We also found here a kind of sand-marten, which makes its nest in inaccessible places in the steep clay banks, and was seen circling in large flocks over the valley.

The waggons, in the meantime, had kept a straight course, and were sometimes on the northern, sometimes on the southern bank, and sometimes in the bed of the river itself, as the ground appeared most favourable. We were approaching in this manner a new rocky chain, which appeared at first to bar all further progress, but where the river had broken itself a way we discovered a passage, though a very narrow and very inconvenient one.

We did not undertake to penetrate further into the wild ravine this day, but encamped again near the water, which was here deeper than we were accustomed to find Bill Williams's Fork. The clear swift stream was peopled by countless trout, and no sooner had this fact become known in the camp, than the banks swarmed with anglers, who landed fish after fish with great rapidity. Dr. Kennerly and I took our small net in hand, and waded, dragging it after us up the stream; and our trouble was richly rewarded by an enormous draught of fish and some very interesting specimens of frogs, which soon found their way, in company with the smaller fish, to my spirit jars; whilst the larger added a very agreeable dish to our modestly supplied table.

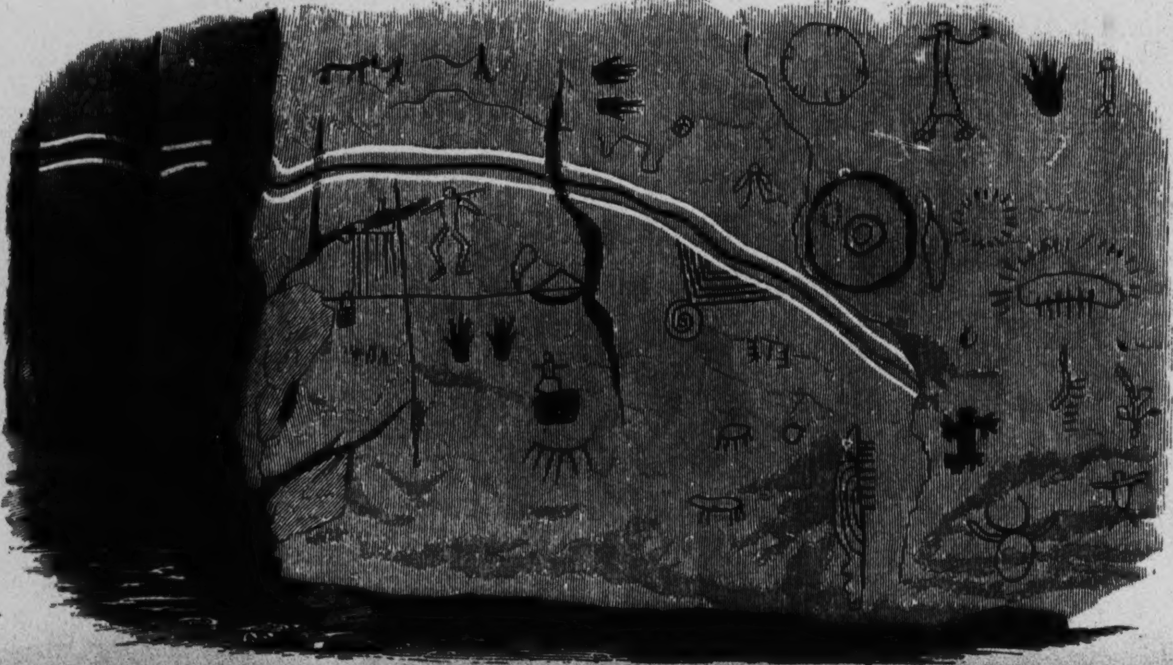
A little before dark, Dr. Bigelow and some Mexicans arrived with news from Lieutenant Whipple. As far as he had yet gone, nothing announced the vicinity of the Colorado, but having come to an end of his provisions, he had been compelled to wait for the waggons. Dr. Bigelow and his companions had left him in the morning, but Lieutenant Whipple had remained in his camp, and intended at most only making a short excursion to the mountains. We were not far off each other, since Dr. Bigelow had been able to make the journey in a day, but we found we must reckon upon taking at least three days to reach the appointed spot with our waggons. The old gentleman had offered himself to carry the message back to us, as he had been enchanted at the sight of the Cereus and other cacti, especially the Yucca, or "Spanish bayonet;" and he was eager to get me to draw some of his specimens. He occupied me in this way the greater part of the following day, and I had sketched for him the skeleton of a Cereus, but we were obliged to leave it, though it went to the heart of the zealous botanist to have to tear himself from such treasures. He was quite in low spirits, because that, in addition to the number of cacti he had collected—and it quite went to his heart—he could not manage also to drag along with him some full-grown Petahayas and Cactodendrons.

On the 10th of February it rained violently in the morning, the first rain that we had had since our departure from Zuñi, but it did not prevent our setting off though we had toiled along laboriously enough through the narrow ravine. There was, indeed, some level ground on both sides of the river, but this, as if on purpose to tease us, flowed sometimes close under the northern, sometimes under the southern cliffs, and made such short turns, that we had not only to avoid the masses of rolled stones and rocks, but also to cross the rather narrow but deep bed of the river. We got on, however, though slowly, and pitched our camp near an isolated volcanic cone. The rain had ceased towards noon, though the weather remained dark and gloomy, but we had a splendid sunny morning on the following day, and the old volcano, which, for some trivial reason, has received the name of Artillery Peak, looked majestic under the beautiful illumination of the rising sun. The reddish rock, that formed its declivities seemed to glare with purple fire, whilst the old streams of lava and the various clefts and chasms lying in dark shadow, completed, by their contrast of colour, the magnificent effect. We started on the 11th rather later than usual, and passed round the southern base of Artillery Peak; after this the valley became broader, and the hills and mountains inclosing it, which were covered with numerous cactaceæ, mezquit bushes, and single yuccas. In the valley itself this kind of vegetation was scarce, but a few scattered leaf trees indicated the presence of fertility in the soil, though for the most part it consisted of sand, through which the water gradually disappeared till at last we found ourselves in a perfectly dry bed. Just where the water vanished in the ground, we found, at the foot of a precipitous rock, a hut, or rather shed, made of slates, which we at first supposed to be the work of some solitary beaver hunter, but subsequently we discovered our mistake, when we saw on the Colorado, huts of a similar construction made by the Mohave Indians. What, indeed, could have induced a white fur hunter to linger, and even build himself a shelter in a spot where there were neither beavers, nor any other kind of game, to make him amends for being thus cut off from all society?

We found no more water this day, and encamped on a small plain, which was so sandy that we could scarcely fix our tents in it. This evening there came some more messengers from Lieutenant Whipple, who was now waiting for us only a few miles off. On the 12th we were early on our way, and in a short time found ourselves at a spot, where, between close reeds and canes, good water gushed out in superfluity, and formed a brook that flowed amidst groups of trees and bushes towards the west. On the banks of this brook we found Lieutenant Whipple, who had just distributed to his people the last food he had with him, and he immediately gave orders that thenceforward there should be no more separation of the party. Since we must now force our way, at any risk, in the direction that we had taken, even though it should cost us our last waggon, a reconnaissance was no longer of so much importance, especially as the bed of the Bill Williams's Fork formed our only road.

We had been a good deal annoyed by the circumstance that the shoes of the whole Expedition had got into the most deplorable condition, for the sharp stony ground that we had had to walk over had cut the leather to pieces, so that they were beginning fairly to drop off our feet; and we were compelled now to halt for a day to give opportunities for cobbling. The muleteers had had the forethought to cut off pieces of the skin of the mules that had died on the way, or been shot; and these now turned out to be of great value to us, for the Mexicans, who are very clever at this kind of work, sewed soles of this raw leather under our boots and mocassins, leaving the hair outside, and though with this addition they were not rendered remarkably elegant in appearance, they answered the purpose admirably, and enabled us to start again with fresh spirit on the 14th. Before the arrival of our

UNIV. OF MICH.



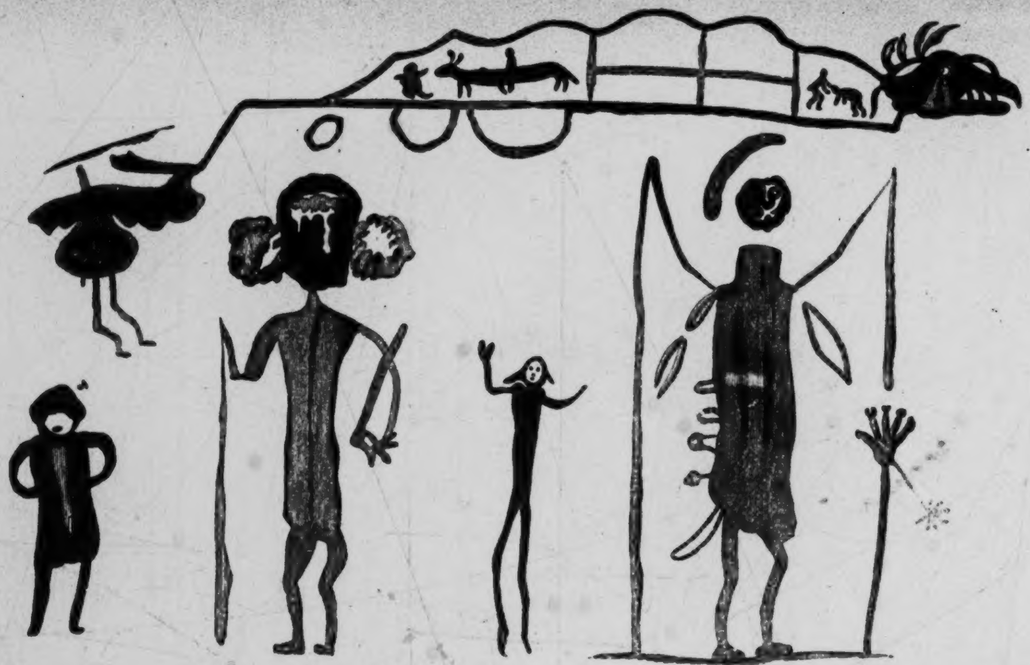
Indian Drawings.

Expedition, Lieutenant Whipple had made an excursion to the heights on the northern bank of the river, and, guided by an Indian path, had discovered in a ravine a spring surrounded by Indian paintings of various kinds, and he now requested me to accompany him to the spot, with Engineer Campbell, Dr. Bigelow, and Mr. Leroux, and help to copy them. Whilst therefore, the train of waggons continued its course through the valley, we turned northward into a naked ravine, where we could distinguish, on the stony ground, faint traces of an Indian path, which we followed. The heights surrounding us were inconsiderable, the ravines narrow, and seemingly only formed by water, and the ground resembled a plain full of clefts rather than closely-lying hills.

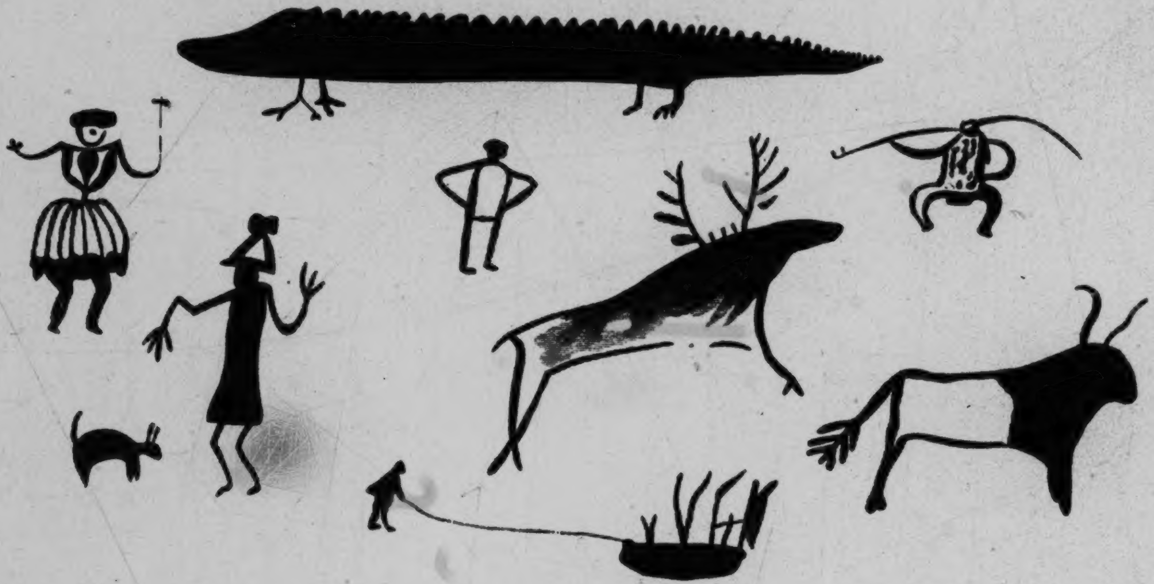
From the first ravine we rode into a second, and gradually ascended to higher ground, of rugged character and hard flinty soil, which would have seemed a mere dead wilderness if some mezquit bushes and tall stately cacti had not redeemed it from utter desolation. The path led sometimes through clefts and chasms, sometimes over low hills; and there were no signs of Indians having recently passed that way, with the exception of some long slender poles which they had used to knock down the fruit from the summit of the Petahaya, and some of the long arrows used by the natives, which were sticking in the highest points of these giant cacti.

We thought at first they might have been shot for mere idle pastime, but as at several turns of the path we came upon similar indications of the passage of Indians, we were led to suppose they had been employed by different bands to indicate the direction some passing party had taken. The country now became more and more mountainous, the ravines deeper and more rugged; and we came to one that appeared to lead to the Bill Williams's Fork; but we followed it only till it opened into another, proceeding from the north-west, into which we turned, and, gradually ascending, soon found some pools of water that indicated the neighbourhood of the spring. We reached it at noon, and found it in a wider part of the ravine, hidden beneath an overhanging rock. Some thick sheep's horns lay about, and led to the conjecture that the spring was visited by these animals, and that many of them fell a prey to Indian hunters, lying concealed behind some of the masses of rock. The paintings that covered the smooth rocky walls were of the very rudest kind; they consisted chiefly of stars, suns, or mere streaks, and sometimes of figures that had not the remotest resemblance to any object known. Single hands, previously smeared with colour, appeared to have been pressed on the stone; but the attempt to represent the human figure was such a total failure, that it was only just possible to make out what it was meant for. On the side of the rock, at whose foot lay the little basin of water, a broad curved line was drawn with red and white paint, which seemed to mark the limits of the spring from the dry rock. In all these artistic attempts we saw nothing more than the childish amusement of savages standing at a very low grade of culture, and I do not believe that any signification whatever is to be ascribed to them.

We rested only a short time at the spring, for though it offered good water for our mules there was not the smallest trace of food for them on the dry stony ground.



Indian Drawings.



Indian Drawings.

We returned, therefore, by the ravine leading southward to the Bill Williams's Fork; but we had often to leave it on account of the immense masses of rock by which it was choked up, and work our way upward to the heights, where the ground was so closely covered by small smooth pebbles firmly united to it, that it had a sort of resemblance to rude mosaic work; and as figures like those painted on the rocks had been produced by scraping away the small stones, we regarded them equally as rude works of Indian fancy.

At length, towards evening, we reached a small valley, at the end of which lay the Bill Williams's Fork.

At the place where we touched the river, it became lost in the sand, and since we found there no traces of our Expedition, we knew we must seek for them much higher up, and accordingly turned towards the east. We had scarcely gone half a mile, when on turning a projecting rock, we saw the herd of our mules, peacefully grazing before us, and not far from them, the smoke of our camp fires, rising from behind some willow bushes, on the banks of the stream, there flowing abundantly.

On the 15th of February we had few difficulties to contend with, and a comparatively good road led us across a district of several miles in extent, in which the water of the river trickles through below the surface of the ground, and then again forces its way out of the earth, and pursues its course, as a full, powerful stream, between banks adorned with some vegetation. In some places it had partly overflowed the valley, — and then the shallow water was covered by thousands of birds, who usually sported on its surface undisturbed, but at the approach of our procession they fled ; and shot after shot was heard in all directions, echoing among the rocks and hills. I happened to be one of the foremost of our party, and had thus an opportunity of obtaining a fine harvest of various kinds of ducks, many of them with splendid plumage, that would be an ornament to our collection. The number of our waggons was now only six, for we had been obliged to leave one after another behind, and, by degrees, to throw away everything that could possibly be dispensed with. Neither chair nor table was to be found any longer in our camp, and even of our tent we had kept only just canvass enough to serve as a protection against rain or dew, but notwithstanding the diminution of their burdens, the strength of our cattle declined more and more, so that we thought it prudent to make but very short marches.

On the 16th of February the Bill Williams's Fork River was still accompanying us on our way, but after we had travelled about two miles along it, we had again to journey over dry and sandy ground. High above our heads, on either side, towered rocks consisting sometimes of granite, sometimes of metamorphic conglomerate. In the afternoon, when we had reached the end of the ravine, and saw, as through a wide open gate, the plain beyond, bounded by blue mountains, we thought we had reached the Colorado, that we so much longed to see; but when we came to where we expected to find it, we saw nothing before us but a barren, dreary plain, and perceived that the dry river bed, in which we had been travelling all day, took a more southerly direction, and stretched towards a dark line of rocks. It might be three or four miles to this point where we hoped again to find water, and that so much the more as we could see groups of trees at a distance.

We were, however, obliged to give up, for this day, all hopes of reaching it; our poor animals were very much exhausted, and there came on a heavy rain, which had been threatening us the whole afternoon, and which disposed us to seek some shelter for ourselves and our effects, now carried on the backs of mules, and much exposed to the weather. On this evening, notwithstanding the rain, we were greatly in want of water, for as no one had imagined the river would remain so long underground, and we had been unwilling to increase our burdens, very little water had been brought with us. The night passed disagreeably, for the rain continued without interruption, and we had very little wood for fuel, so that we were ready to start again very early on the following morning, and proceeded in our accustomed order, towards the groups of trees by the rocky chain. As we came nearer, we recognised the ravine by the volcanic rocks through which the river had made its way; it was pretty thickly grown with cotton-wood trees and willows, and we also found there water, in such quantities that it had quite softened the ground between the rocks, and did not at all improve the road for travelling. Several of the party, and I among them, had penetrated a good way into the ravine; but not thinking a night bivouac on the marshy ground likely to be very pleasant, we rode back to induce the train to halt before reaching it, at a spot where there was to be found, besides water, nourishing food for the cattle, and even on the damp ground fresh water-cresses; promising us, what we had not tasted for a long time, — a good dish of vegetables. But fresh and green as they looked, no one ventured to touch them, till our doctor and botanist had pronounced them, not only harmless, but very wholesome, at a time when, in consequence of long privation of vegetable food, we might daily expect the appearance of scurvy among us. Our mode of preparation of the cresses might not be altogether in accordance with the canons of the Cookery Book, but we found them highly acceptable.

I saw here many large light green scorpions, which appeared to have a particular satisfaction in getting into our beds, for when the blankets were rolled up in the morning, many of the unpleasant brutes were shaken out of them.

The 18th of February was one of the hardest days that we had had on our journey along the Bill Williams's Fork. Sometimes we were stopped by the windings of the now deep and full river, sometimes by the marshy grounds formed by its overflow; here the thick wood and tangled bushes stopped the way, and there an almost impenetrable growth of canes, and other obstacles, requiring time and toil to overcome. Sometimes, though less frequently, we found our progress obstructed by the near approach of the rocks; in general the northern bank was flatter, whilst on the southern there rose enormous cliffs that assumed an almost regular form, and added a peculiar beauty to the scenery. Slowly we made our way over the marshy ground covered with innumerable water-fowl, and more slowly still past places where every foot of our way had to be cleared with the axe; and towards evening we came to where the rocks rose like a giant wall, high above the valley, and the neighbouring ranges of hills. We had often, in the course of the day, wondered at the repeated echo that came thundering from the

UNIV. OF MICH.

The Colorado River.

ravine in answer to every shot, and now, when we lay encamped by these stupendous masses of rock, we had abundant opportunity for admiring this fine formation. Enormous blocks of trap rock lay piled on one another, resting upon flat strata of limestone, which, with its yellowish white colour, contrasted well with the blackness of the other rock.

For four weeks we had now been looking out in vain for the Colorado, the great Colorado of the West, and we had rejoiced in the anticipation of the advantages we should enjoy in the broad valley of a river of the first rank ; but still we could see from the heights, day after day, nothing but an endless wilderness, and we did not imagine, on the 19th of February, that the chain of rocks before us lay on the western shore of the Colorado, so that when (on the 20th) a sudden turn of the valley brought us in full view of the broad majestic river, the sight was as unexpected as welcome. For some miles before its mouth, the Bill Williams's Fork waters a beautiful valley varied by meadow, woods, and ponds or small lakes, and the clear waters of the stream, passing the rugged mountains, take their way to join the flood of the Colorado, which at this place violently breaks its way between the naked grey rocks, which, with the broad river, make a fine, though not exactly pleasing scene. The total absence of vegetation always seems like a want of health in nature, and though you may admire her other combinations, you have not the joyful feeling inspired where a rich vegetable mantle clothes the soil, and thousand-fold life seems bursting from it.

The Mexicans saluted with shots, and the Americans with a hearty hurrah, the appearance of the long-sought river, and though we had gone but a few miles preparations were immediately made for indulging in good rest by the side of the Colorado, and then pursu ing our way with renewed strength up the stream. A the mouth of the Bill Williams's Fork in the Colorado we found the latitude to be 34° 17′ N. and the longi tude 114° 06′ W. from Greenwich, the height wa 208 feet above the sea, and we had therefore descended 6073 feet, since crossing the Aztec Pass, a fall distributed rather unequally over a distance of 154 miles. We were now 1522 miles from Fort Smith, and 668 from Albuquerque.

CHAP. XIV.

JOURNEY UP THE COLORADO. — THE LAST WAGGON ABANDONED. — NATIVES IN THE VALLEY OF THE COLORADO. — THE CHIMEHWHUESES. — CUTCHANAS AND PAH-UTAHS. — BARTER TRADE WITH THE NATIVES. — TRADITION OF THE SACRED OAK OF THE CHAUCHILES INDIANS. — THE MOUNTAIN PATH. — THE MOHAVE INDIANS.

We found near the Colorado numerous traces of Indians, who with naked feet had crossed the valley in all directions, and in many places appeared to have stayed with their families a good while ; and we were eager to meet with the first of these races, as yet so little known. Crossing the river was not to be thought of, for the western shore, as far as the eye could reach, was a continued steep rocky chain, and we wished, as much as possible, to take advantage of the Mohave river, which, issuing from the San Bernadino Mountains in California, pours itself into the Colorado. We were therefore obliged to proceed northward, to where we might find, perhaps, among the Mohave Indians, a suitable place for reaching the western bank of the rapid stream; and after a short rest at the mouth of the Bill Williams's Fork, we set off again along the narrow but tolerably level valley of the Colorado, and when we had gone six miles pitched our camp at a short distance from the stream. Up to this time we had still two large travelling waggons, so that we had proved that it was possible to penctrate with waggons as far as the Colorado.

To get them across the river, however, would have been a mere waste of time, especially as before us, to the north, there lay a group of steep craggy mountains, that appeared quite impassable for waggons. It was considered necessary, therefore, to leave them behind, and distribute their loads upon pack-saddles and the backs of mules; and it was while our people were engaged in this labour in the afternoon, that the first of the natives made their appearance and approached our camp confidingly.

They were four very tall, finely-grown young men, whose powerful forms and perfect proportions we had a full opportunity of admiring, as, except a narrow white apron, they had not a particle of covering, and even their feet were bare.

They were entirely unarmed, and as this manifested their peaceful intentions, they were of course received with the utmost friendliness. The colour of their skins was a dark copper, but the faces of all four were painted, in a really terrific manner, coal-black, with a red streak passing from the forehead over nose, mouth, and chin: a style of decoration that must be very fashionable among these Indians, as I afterwards saw it frequently. Their thick black hair hung far down their backs, but was then cut off blunt, and by means of softened clay twisted into stiff rods,— a custom prevalent among the male natives of the valley of the Colorado. A thin cord of bast was passed round the hips, and the above-mentioned narrow strip of stuff drawn through it, so as to hang down to the knee in front, and at the back almost to the ground.

This must form some kind of distinction among the tribes there, for I afterwards noticed that the wearers were always anxious to have it seen ; and when one of these young men had been presented by some of our people with a pair of trowsers, and with their assistance put them on, he manifested great embarrassment because this train or tail was no longer visible. After some meditation, he tore a hole in the middle of the garment aforesaid, and with an expression of great triumph in his own sagacity, pulled the favourite appendage through it,—contriving thus to combine the Indian and European costume, in an indescribably comic manner.

Our visitors had rats, squirrels, and frogs dangling to their girdles, and wished to roast them at our fires, but as they were new specimens we exchanged them for mutton, and added them to our collection.

In the tracks of these Indians that we had seen on the clay soil of the valley, we had noticed how very wide apart the toes appeared to stand, and we now saw, on looking at the feet of our visitors, that this was the case, and that the toes had scarcely any nail. We conjectured that this peculiarity might be caused by frequent wading in childhood through marshy earth and flooded valleys.

The four Indians went away at night, but they came again in the morning, and seemed greatly astonished when they perceived our intention of leaving the waggons behind, and only taking with us the light cart to which the viameter was attached. Our mules could without difficulty follow the Indian paths, which led past rocks and precipices, and through ravines, and the light cart could be carried by the men upon occasion; so we got on pretty fast over the broken rocky bank of the Colorado, by which the smooth surface of the valley was frequently interrupted. We were continually accompanied by whole hordes of Indians, who sometimes issued from the mezquit thicket, and sometimes swam through the river to us; and they were no longer unarmed as on the first day, but swarmed round us with bows and arrows.

We had now before us, in great numbers, three different tribes of the natives, Chimehwhuebes, Cutchanas, and Pah-Utahs, who, however, did not differ at all in appearance, and we were never tired of admiring the vigorous, powerful race, amongst whom a man of less than six feet high appeared to be quite a rarity. We were especially struck by the difference of such as we had seen of the Yampays and Tontos, who lead the lives of wolves in the mountains, and these vegetable-eating inhabitants of the valley of the Colorado; with the small hideous figures of the first and the cunning repulsive expression of their faces, and with these real masterpieces of creative nature. It was a real pleasure to see these finely-developed forms, as they came bounding towards us in immense leaps over stones and bushes, with the agility of black-tailed deer, and their pleasant, almost open looks, which even their frightful style of decoration could not disguise; and to watch the perpetual good-humour that seemed to prevail among them, their playing and romping with each other, and the shouts of laughter that followed their reciprocal jokes, the whole day long. Towards evening they always disappeared, probably to procure for their naked bodies some shelter from the cold that then set in.

The women of the Colorado were unlike the men in growth, being short, thickset, and so fat as to border on the comic. Round their hips they wore an apron, or rather petticoat, made of strips of bast, fastened at one end to the girdle, and hanging down to the knee like a deep fringe. At a distance, these women looked very much like our ballet dancers, even to the swinging of the petticoat and affected movements that may be noticed among those ladies. Both sexes wore the hair cut short over the eyebrows, but the women never have it twisted into tails. They have fine black eyes, and their somewhat broad faces have a cheerful and far from unpleasing expression, though they cannot be called handsome. They go more carefully to work with their painting than the men, and tattoo themselves more; their lips are mostly coloured quite blue, and their chin, from one corner of the mouth to the other, is adorned with blue lines and spots. They carry their babies about with them, up to a certain age, wrapped in pieces of bast.

On the third day of our stay at the Colorado, we had an opportunity of entering into a barter trade with the Cutchanas, who came streaming into our camp bringing beans, maize, wheat, fine flour, gourds, and melons; in exchange for which we gave old clothes and strips of our blankets. They also brought us some bows of five feet, and arrows of three feet, long; the first consisted merely of bent pieces of tough wood, strung with some firmly-twisted animal sinews; the arrows were made of three pieces,—a hard stick thrust into a cane, with a feather fastened to it, and a neatly-shaped stone point. In what way these Indians manage to cut and barb these arrow points is to me inexplicable. They are fixed to the shaft with a mixture of resin, but so that they may remain in the body when the shaft is withdrawn.

Besides these weapons of attack, these Indians carry a short club or mallet, cut out of a single piece of wood, whence they have received from the Americans the name of "Club Indians."

This club is a foot and a quarter long, made with much labour out of light but very firm wood, rounded at the handle or stem, and with a sharp edge at the extremity, and a hole in the handle, through which is passed a leathern thong, so that at the moment of striking a blow, though it may slip it cannot escape from the hand. The force of the blow is thus more than doubled, and clumsy as the weapon may be it is certainly not one to be despised when in the hands of a brave and gigantic Indian. Of their courage Captain Sitgreaves had a signal proof some years ago, when, on going down the Colorado, he was attacked by a party of them, for they stood a fire of musketry for twenty minutes' long without flinching, though they lost four of their number, besides having others wounded, whom they dragged away with them. Their behaviour towards us was perfectly friendly, and they even seemed to have some notion of the purpose of our Expedition, and to desire more intimate connexion with the whites. Had they been hostile they might have given us much trouble, or possibly even frustrated the whole design and dispersed the Expedition.

We now frequently passed well-cultivated corn-fields, and always found a number of Indians near them, who begged us by signs not to trample down their corn. Of course every care was taken not to cause the smallest damage, especially as with the slender resources at their disposal the cultivation of even a small field must cost them much labour.

On the 25th of February we received, for the first time, a formal visit from the Cutchanas, Pah-Utahs, and Chimehwhuebes, who brought us maize and beans in elegantly-plaited baskets and dishes. All was taken from them in the way of barter, and not only did we ourselves now obtain enough to satisfy our sharp appetites, but our mules also were supplied with small rations of maize, to restore a little the strength that had been so much exhausted. Red flannel, were it ever so old and worn out, proved to be a very acceptable article to these Indians, whilst they looked with contempt on the fine red paint that had been so successful as an article of commerce among the nations east of the Rocky Mountains. In general we found that the Indians of the Colorado differed widely, not only in their manners and customs, but also in their inclinations, from all others that we had known; and if in former times Spanish missionaries ever came among them, it is wonderful that the civilisation to which they have so obvious a tendency should not have taken root.

In their whole behaviour towards us, and in the circumstance that they seemed to understand and approve the purpose of our Expedition, we thought we discovered a spark that needed only to be fanned in order to bring them at least to the level of the Pueblo-Indians of New Mexico, even apart from the consideration that to an agricultural people civilisation always finds more ready access than to nomadic tribes. Unfortunately, however, the experience of past centuries, as well as of the present, has shown that the insolence and injustice of the whites, when in close and frequent intercourse with at first innocent savages, will soon stifle any germ of confidence that may be springing up, and transform their friendliness into bitter hostility. The native, who seeing himself trampled upon, revolts against the dominion of the white race, is then at once treated like a noxious animal, and the bloody strife never ends till the last free inhabitant of the wilderness has fallen. I may cite, in proof of this assertion, the example of the murderous war of the Californians against the warlike tribes of the Chauchiles Indians in the year 1851, the sole cause of which was the brutality of a dealer in cattle.

Far in the Mariposas Mountains, there lies a district called the Four Creeks, generally acknowledged to be an Indian paradise. Numerous springs gush out at the foot of the snow-covered mountains, and form streams that wind through fragrant clover plains, shaded by broad umbrageous oaks or lofty pines; and amongst them was one sacred tree, a mighty oak, that was justly regarded as the monarch of the whole region. Under the shadow of this tree the Indians held their councils, worshipped their Manitoo, and buried their great chiefs and wise men, and the passing caravans of emigrants had always respected this sacred tree, until one day a cattle dealer made his appearance with a great herd. The Indians came to him in a friendly manner, and even offered to help him in putting up a fence for his cattle; but it happened that the fellow had taken a fancy to the sacred oak, and he chose to drive his beasts under it. He paid no attention to the remonstrances of the Indians; but answered that he had a fancy for putting up his oxen for the night in the "Indian church," and that nobody should hinder him. The result was, that when the Indians witnessed the desecration of the graves of their most distinguished warriors, they fell on the cattle-dealer and murdered him, and seized on his herd. War was then declared between the whites and the Indians, and numerous victims fell on both sides, before the strife, awakened by the flagitious conduct of one man, could be completely appeased. How long will it now be before a reason is found or invented for beginning a war of extermination against the hitherto peaceful Indians of the valley of the Colorado? On the whites alone can the reproach justly fall, if whole races have vanished from the face of the earth; for nearly all the errors, nay the crimes, of the copper-coloured aborigines against their oppressors, have arisen from faults peculiar to uncivilised men, and those who punish savages according to the laws of civilisation have themselves no claim to be ranked among the civilised.

On the 22nd of February we continued our journey northward, at some distance from the Colorado, and towards noon reached the river, along whose banks we travelled till towering masses of rock stretching far into the country seemed to bar our way. We pitched our camp, therefore, in order to debate on the course we were to take, for we had not yet reached the actual village of the Mohave Indians, although numerous parties from it had visited us. As far as we had hitherto seen of the Colorado, dry stony ground and bare rocks alternated with valleys, fertile, though of small extent. In these valleys or lowlands, the Indians live hidden in mezquit woods, and appear to obtain from the fruitful soil all that they desire or need, for besides those fruits of the earth, for which they have partly to thank their own industry, they have the

UNIV. OF MICH.

as their sole garment a fur mantle, made of hares' or rats' skins, thrown over their shoulders ; but one outshone all the rest of the company, having picked up an old waistcoat that had been thrown or bartered away by some of our people, and now displayed it for the completion of a costume that had hitherto consisted only of paint. The women all wore the peculiar petticoat above mentioned, the front of which the ladies of most distinction had made of twisted woollen cords, instead of strips of bast. They carried on their heads clay vessels, bags made of bast, and water-tight baskets filled with the productions of their fields and of their own industry. When they reached the camp, the women knelt down in rows on the ground, and placed their full baskets before them, while the men who had accompanied them scattered themselves about the camp, challenged our people to trade, and sometimes watched the fulfilment of a bargain. This went on till late in the evening, when most of the Indians were, for the sake of security, required to quit the camp and the watch fires; but many of the number had retired to their huts and caves as soon as it began to grow cool.

Only a few of the Indians appeared on the morning of the 23rd of February, to witness our departure, but among them was one of our first acquaintances, who had contrived to mount upon his person every morsel of stuff of any kind, that he had received from our company, and now bore triumphantly on his shoulder a useless broken old rifle that had been bestowed upon him; his satisfaction in his own appearance when thus accoutred seeming boundless. This man was to serve us in some measure as a guide, and he led us to the rocky chain, where the path divided into two, one leading along the rocks close to the river, and the other eastward towards the mountains.

It happened in consequence that our Expedition became divided, for while Lieutenant Whipple, on account of the small waggon with the viameter, had taken the more level road to the east, Lieutenant Fitzball, with the twenty-five men, and the mules belonging to them, had disappeared behind the rocks near the river, imagining that the whole company was following him. Mr. Marcou, the geologist, and I, in the hope of being able in the evening, or sooner, to join the party to which we specially belonged, followed Lieutenant Fitzball, who was moving cautiously along a path that only mules or Indians would follow with safety. At the most difficult places, where it lay along the very edge of the precipice, and we did not feel ourselves quite secure from giddiness, we dismounted and led our animals by the bridle; and sometimes, when we had got firm footing again in a ravine, as we looked up at the rocks from which we had just descended, or watched the long line of heavily-laden mules winding one behind another along their sides, and saw the stones and pieces of rock loosing themselves under their hoofs, and rolling down to the depths below, we thought, with a kind of surprise, that we had ourselves passed the same places safely just before; and then on we went again on our slippery way, between the formidable precipice and the foaming river.

We had the Colorado constantly on our left, and could see across it to its western shore, which also consisted of a chaos of black rocks. At one place the river, without making an actual fall, hurried, with wild fury, down over a mass of crags, forming a grand wild scene; but the total absence of vegetation gave it a gloomy character, and the Indians, as if they shrunk from such a wilderness, had all disappeared.

Our toilsome path seemed as if it would never come to an end, and when at last we thought we had reached level ground, we found that after a short time the path went up the rocks again, where the iron-shod hoofs of our weary mules rattled on the ground as they faintly toiled along, and then died away in the deep silence of the desert. The sharp mountain ridge that we had seen before us in the morning was now gradually left behind, and the domes and peaks rose like irregular towers and obelisks up into the clear air, in which the smallest line of those blue mountain masses was clearly distinguishable.

Late in the afternoon we reached a plain formed by the low banks of the Colorado. It was covered by woods of stunted trees, underwood, and rushes, and numerous lines of smoke were rising from it in all directions, pointing out the spots where lay the simple habitations of the Mohave Indians. The valley of this river must be thickly peopled, for on both shores, as far as we could see, appeared these signs of human habitation. We had not ridden far in this plain, when two Indians, mounted on magnificent stallions, came galloping towards us, and we were even more struck by the beauty of these evidently well-kept steeds, perfect models of horses as they were, than by that of the young riders who guided them merely with a hair cord. With the exception of these two, we never saw but one horse during our stay on the Colorado, and all three seemed to be regarded rather in the light of things sacred than as intended for use. They were petted and fed by every one who came near them, so that it was no wonder if they appeared in good condition; and when I tried to persuade the Indians to sell me one, they only laughed at me, and overwhelmed their darling with caresses. The horses were young, but appeared to have belonged to this nation from their infancy. The two young Indians seemed to understand very well our inquiry after a pasture for our cattle, and making signs to us to follow them, led us to a grassy meadow, bordering on a little wood, where we immediately made preparations for our bivouac. Having now no tents, we had to take everything in a very rough style, and as we could not now expect Lieutenant Whipple and the rest of the party to come up with us, Mr. Marcou and I were indebted to Lieutenant Fitzball's kindness for a share of his blankets, and if either of us felt any deficiency, we had good fires to supply the place of more coverings. The Indians came streaming in on us during our preparations, surrounding us by hundreds, and even mingling among our men; and it was fortunate for us that they were not inclined to abuse our confidence, for as there were but twenty-seven of us, and of those scarcely the half in the camp together at one time, as the rest were out looking after the cattle, or getting wood and water; had a skirmish taken place, we must have got the worst of it, though we were armed to the teeth with revolvers and long knives. The natives, however, seemed to have only friendly dispositions towards us, or else they paid perfect obedience to their chiefs, and were guided by them in this matter. It seems scarcely probable that thousands of men should have been all of the same mind with respect to us, without any party being formed against us, either from desire of our possessions, or thirst of revenge for such of their number as were formerly shot by the whites. Even among men in so primitive a state, the mass will mostly be found willing to be guided, and ready to submit to one in whom they perceive personal superiority. Only for a moment was there any danger that the friendliness of our intercourse with these savages should suffer any interruption, but, fortunately, the night came on piercingly cold, and the naked brown figures fled for refuge to their huts, and when they returned on the following morning their blood was much cooled. It happened that when Lieutenant Fitzball, Mr. Marcou and I, were standing near a group of these fine-looking fellows, and admiring their magnificent limbs, one of the young ones who stood near us thought proper to behave in an unbecoming manner, though, I believe, more for the love of fun than from any other motive ; and Lieutenant Fitzball, who happened to have a small cane in his hand, gave him a cut with it across his naked shoulders. The Indian merely laughed, and seemed inclined to take it as a joke; but unluckily a wrinkled old woman, who had been looking on, flew into a furious passion, and in a croaking voice poured out upon us a whole torrent of what doubtless were curses and invectives, though of course we did not understand a word of them. Other women then joined in chorus with the old witch, and we easily made out from their gestures that they were threatening us that a whole crowd of their warriors should come, and make us disappear from the face of the earth. We observed attentively, however, the Indians near us, and we did not see in them any signs of ill-will; but they became more serious and reserved. By degrees, nevertheless, the men began to assemble round the scolding woman, and, not to be taken too much at a disadvantage, our soldiers received orders to send every Indian immediately out of the camp, — and fix their bayonets.

We were in the middle of the meadow, so that no Indian could approach within arrow-shot range without at the same time becoming a mark for our rifles and muskets, which latter were loaded with deer shot as well as ball.

The sending them away from us seemed to make a still worse impression on the agitated crowd of wild men; but whether they stood in awe of our fire-arms, or did not like the cold night air on their naked persons, they retired, to the last man, and vanished in the neighbouring thicket. A doubly-vigilant watch was kept during the night, and sentinels ordered to pace continually round the camp and the cattle, and announce, by a call every half hour, their own watchfulness, and the general security. But the night passed without the slightest disturbance; we slept with arms in our hands, and so much the better, as long practice had now made us such light sleepers, that we could hear the slightest unusual noise as well as if we were awake.

CHAP. XV.

DAY OF REST IN THE MOHAVE SETTLEMENTS.—SPORTS OF THE MOHAVES. — SHOOTING AT A TARGET. — JOURNEY THROUGH THE VILLAGES OF THE MOHAVES. — CAMP ON THE SHORES OF THE COLORADO. — PREPARATIONS FOR THE PASSAGE. — AN INDIAN FAMILY.—PASSAGE OF THE COLORADO.—SERVICES OF THE NATIVES.

WITH the rising sun came crowds of the Indians again to our camp, but there was nothing in their behaviour to remind us of the disagreeable occurrence of the past evening. All appeared to be forgotten, and they teased and knocked each other about with their usual playfulness: even the men would sometimes bestow caresses, and embrace in the most affectionate manner, and the next minute play each other some exceedingly rough joke, which was taken as good-humouredly as it was given.

On seeing how happy and contented these people were in their primitive state, one might have wished that civilisation, with its many errors and sufferings, should never find its way into the valley of the Colorado; though on the other hand, looking at the matter from a different point of view, one might regret that a race so physically and morally gifted should be strangers to the blessings of civilised life. How beneficial might the influence of Christian missionaries be, if they could only be induced to depart from their accustomed routine, and avoid rendering Christianity hateful by their stern repression of even innocent heathen customs.

Were these things mildly tolerated for a time in the neighbourhood of the new religion, affectionate confidence might gradually be inspired in it, and superstition would decline of itself, as the simple Indian was taught to look up to the throne of the all-embracing Almighty power that, while guiding millions of worlds on their courses, watches over the frail life of the almost invisible creature sporting in the atmosphere, which a breath would be sufficient to destroy.

Our comrades must have started at a very early hour this morning, or have encamped very near us, for just as we were discussing the propriety of waiting for the train at this spot, we saw the foremost rider of Lieutenant Whipple's division turning into the valley. We were soon all together again, and our comrades, by Lieutenant Whipple's order, took up their quarters with us till the following day, the 24th of February.

The motive for this delay was twofold ; on the one hand, it was a matter of great interest for the Expedition to acquire as much information as possible concerning these hitherto almost unknown Indians of the Colorado, and we should thus also afford more time for the inhabitants of distant villages to bring us corn and other provisions. As the Indians have seldom any inducement to raise more than they require for their own consumption, they could not, though they came to us in crowds, spare more than a very small quantity of their produce for barter, and many a basketful of maize had to be poured out on our outspread blankets, before our whole herd of mules, diminished as it was, could get a single feed.

There was soon a lively bustle going on round our camp, but within its precincts only chiefs and distinguished warriors were admitted, as we had to be careful that, in case of any sudden outbreak of hostilities, our party should be all together, and with a sufficiently clear space for action. The Mohaves were in hundreds about us, but in their gala attire ; for only on festive occasions are they so extravagant with their paint in the decoration of their naked persons. I cannot undertake to describe the various fashions, but any one seeing the swarms of red, white, blue, and black forms, in continual motion, and horribly beautified with rings, and lines, and figures, which they contemplated with much complacency as they leaned on their long bows, might have rather taken them for a troop of demons, about to begin some infernal rites, than for the good-tempered creatures they were.

But merry shouts of laughter were heard from all sides, usually indicating the amusement they found in watching our doings. I busied myself in trying to sketch the most striking figures, and I was not a little surprised that they looked on quietly, and even seemed to take a pleasure in my work, and brought their women and little children to me to draw, watching attentively, as I gradually produced a representation of them on paper. The mothers were even specially anxious that I should not omit one of the coloured lines which they had described on the persons of themselves or their offspring.

Several of the men carried poles sixteen feet long in their hands, the use of which I could not make out, till I saw the brown forms leave the crowd two by two, to begin a game, which remained somewhat obscure to me, though I looked on at it for a long time. The two players placed themselves near one another, holding the poles high up, and one of them having in his hand a ring, made of strips of bast, of about four inches in diameter. Lowering the poles, both rushed forward, and at the same time the one who held the ring rolled it on before him, and both threw the poles, so that one fell right and another left of it, and arrested its course. Without stopping a moment, they then snatched up the ring, and the poles, and repeated the same movements back again, over the same spot, a piece of ground about forty feet long, and so on again and again, till the indefatigable players had trampled a firm path on the loose soil of the meadow. They continued this game for hours without stopping a minute, or exchanging a single word, and though some of the Indian spectators joined them, they were just as much absorbed in the game, as the players themselves, and would by no means allow me to come nearer, to try and make out the meaning of it. They gave me to understand by sign, that an important affair was going on, which my presence would interfere with, and when I attempted, disregarding their prohibitions, to come nearer, they even made threatening demonstrations with their clubs towards my skull. Whether the poles ought to have gone through the ring, or were intended to fall by the side of it, did not become clear to me, but it was evident here and elsewhere, that these Indians were as passionately in earnest about this game, as the most enthusiastic chess player could be amongst us.

The chief food of these Indians consists of roasted cakes of maize, or wheaten flour, which they prepare by grinding it between two stones. Many of our visitors brought these cakes with them, which they ate with great apparent appetite in the course of the day; but I cannot say that the sight of this very dirty pastry, which they carried fastened on a convenient part of their bodies, at all tempted us to taste it. The Indian flour, however, when prepared by our own cooks, made very good bread, and their beans and dried slices of gourd extremely savoury dishes.

In the afternoon we got up a shooting match with revolvers, in which the Indians took part with their long bows. They were very much surprised to see our shots send a bullet every time through a strong board, and we wondered no less at the skill and certainty with which their arrows hit the mark. We then took our rifles, to let them see at what a distance the lives of our enemies were in our power; but the revolvers remained the greatest marvel to them, as they believed we could go on shooting with them, without ever reloading, and we left them in the belief, which it was so much the easier to do, as they knew scarcely anything more of fire-arms than that some of their number had on a former occasion been killed with them by the whites. At sunset our guests, or rather our hosts, took their leave of us and retired quietly as before.

On the 25th of February, the first Indians who came to the camp found us busied in our preparations for departure, as we intended to proceed through the low woods to the Colorado, and endeavour to discover a suitable place for a passage across it. Riding towards the woods we soon saw a path that turned into them and led in a north-westerly direction, but was so narrow, that we had to ride in a long line, one behind another, passing small clearings, cultivated fields, and

Indian dwellings, not standing together in a village, but scattered about on the sides of little hills, which indeed formed part of the dwelling itself, being hollowed out for the purpose. Before the opening, a broad roof was erected of the same height as the hill or earth wall, and rested on strong stakes, so as to make a kind of veranda; under these were standing large earthenware vessels for keeping corn and flour, as well as the household utensils in daily use, which consisted of prettily plaited water-tight baskets and dishes, and some hollowed-out gourds. Near each dwelling we noticed a small edifice of peculiar appearance, the purpose of which we could not immediately guess. Poles four or five feet long were placed upright, in a circle of from three to five feet in diameter, and then woven together with wicker-work, so that the whole had the appearance of a very large basket, fitted at the top with a round roof-like lid. At a distance they did not look unlike small Chinese houses, but they turned out to be corn magazines, which the proprietors had now crammed to the top with mezquit pods, and small spiral-shaped beans.

These are not the customary food of the Mohaves, but are stored up from year to year to form a resource against hunger in times of bad harvests, or unforeseen misfortune. The peculiar nature of the productions, and the careful packing they receive, causes them to keep for many years without spoiling, and this is very desirable, as there are many seasons when the harvests are not rich enough to form or add to a store of this kind, and the people, with the best will, are unable to fill their magazines. This provident care for the future, and preparation for unforeseen and uncertain contingencies,

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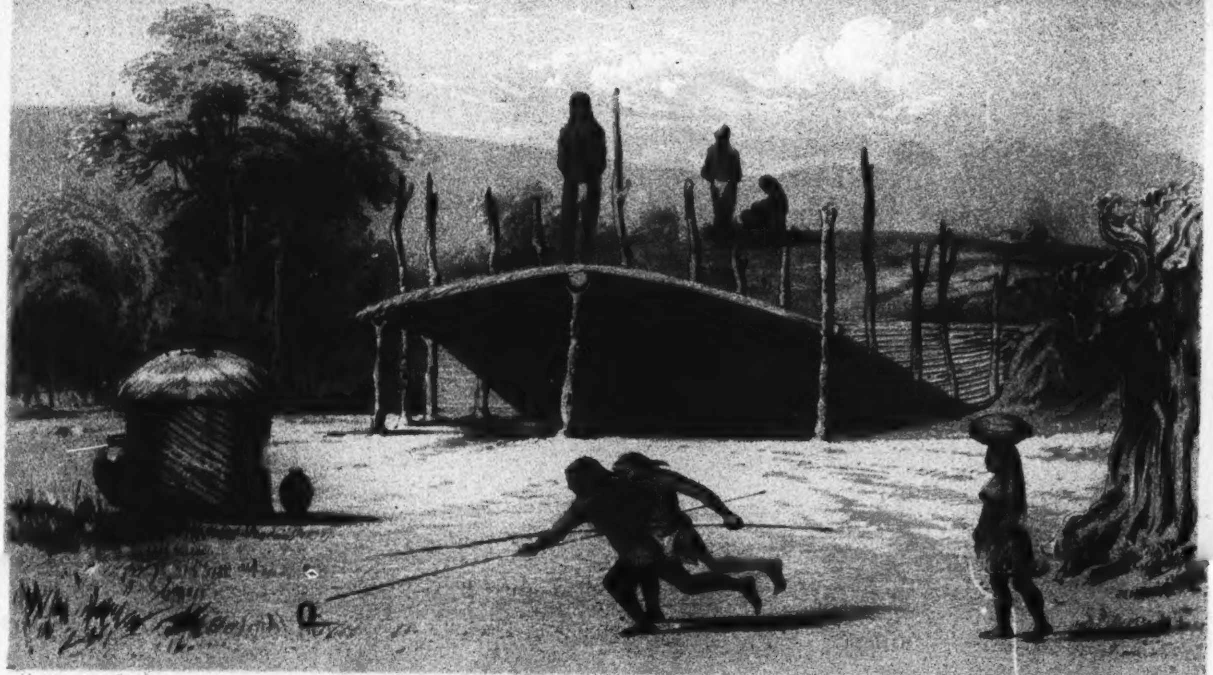

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DWELLINGS OF THE NATIVES OF THE RIO COLORADO OF THE WEST

I had never seen among Indian tribes east of the Rocky Mountains — a difference that may, perhaps, be accounted for from the fact that the prairies, and the woods and mountains bordering on them, are richer in game than these regions; but in any case, the care and forethought of the people of the Colorado is not to be placed on a level with the instinctive storing up of food of marmots and bees.

Our appearance in the settlements and villages of these savages created no little sensation, — though only of a pleasant and good-humoured kind. The hills and roofs were quickly covered with natives of every age and sex, who enjoyed thence a full view of the long procession of strangers; and our copious beards, which had now had the benefit of nearly a year's undisturbed growth, and with most of us reached down to the breast, seemed particularly to amuse the ladies. In the encampment that we had left, one or another had occasionally ventured to touch these somewhat tangled decorations, in order to convince herself of its genuineness, but when at a distance, they gave us to understand, in an unmistakeable manner, that they did not consider these appendages at all attractive, though we were rather proud of them, as testifying to the length of our journey. Whenever one of us bearded fellows rode past them, the women burst into a fit of laughter, and put their hands before their mouths, as if the sight of us rather tended to make them sick.

It was curious enough that they should be of that opinion, as their own men had evidently by nature a great deal of hair on their faces, a thing almost unheard of elsewhere among the copper-coloured race; but they have some method of scraping, singeing, or plucking out the hair, so that, though the beard was perceptible, they appeared to be as clean shaven as possible.

We travelled for many miles through these variously peopled woods, troops of curious Indians flocking to us from both sides, and bounding and leaping through and over the bushes, with the swiftness and agility of panthers. As we were jogging along through the close willows, quite unable to see around us, an accident happened, that deprived us of one of our mules, and might easily have cost us a man also. A Mexican, who had fastened his rifle on his saddle in the customary manner, was driving his mule along carelessly through a thick part of the wood, when a twig somehow caught the trigger of the rifle, discharged it, and lodged the contents in the body of the nearest mule. It was necessary to put the poor animal out of its pain with a second shot, and transfer its load to another mule.

In a very few minutes more the dead one was literally torn to pieces by the Indians, and a most hateful spectacle they made, as they hurried past us to their dwellings, carrying the still bleeding limbs of the animal upon their naked shoulders, smeared from head to foot with its gore, and looking like genuine cannibals. The eager appetite for flesh meat which this action betrayed, created some misgiving amongst us for the safety of the Expedition, for in these woods it would have been no difficult matter to rob us of many of our mules, or even to steal away our whole flock of sheep. A Comanche or Sioux Indian would assuredly not have allowed such an opportunity to pass, but no Mohave showed the slightest intention of stretching out an unlawful hand towards our property; on the contrary, if a mule or a sheep wandered away from us, there was sure to spring up a band of Indians to yelp and shout after it, and drive it back.

We made a halt at some sand banks close to the river, to pitch our camp for the last time on the east side of the Colorado, and found ourselves opposite a sand mound, which rising in the middle of the stream promised to facilitate our passage across it. On each side of this island it flowed on rapidly, in a breadth of 200 yards, and was from the many whirlpools evidently of a considerable depth.

We set about our preparations this evening, in order to get across in better time in the morning. Lieutenant Ives had brought with him from Texas a canvas boat, which being packed with the greatest care, had now travelled in safety to the place of its destination, the great Colorado of the West. The craft consisted of three long canvas bags, connected together, and lined inside with gutta percha, so as to be perfectly air-tight. By means of a bellows fitted to them, and some ingeniously contrived screws, it was pumped full of air, the frame of the small waggon which exactly fitted it placed on it, and the sacks drawn up at each end, so that the whole had very much the appearance of a Venetian gondola, and even the awning was not wanting, as the waggon furnished one. The boat was immediately launched, and to our great joy, not only swam admirably, but proved to be of great capacity. A mattrass made of the same material was also filled with air, to carry over all our lines and cordage, as well as some of the people; and Lieutenant Fitzball having proceeded rather further up the stream to collect drift wood, constructed a raft, upon which he meant to carry over the men under his command.

These labours were all completed before twilight, and we had then leisure to attend to the Indians, the population of a whole village having come out to us, under the guidance of an aged chief, Me-sik-eh-ho-ta, a venerable-looking man, with an immense plume of feathers on his head, and a thick spear in his hand, who walked at the head of his people, they following in regular order, bearing baskets of various wares on their heads.

Business commenced without much preliminary ceremonial; the blankets and pieces of cotton stuff that we had brought with us for the purpose were cut and torn into strips, and bartered with beads and knives for provisions. We also purchased some of the weapons and ornaments of the savages, and even the elaborately worked little petticoats of the ladies found admirers amongst some of the party, who had ethnological collections, and were willingly exchanged by the Indians for half a blanket each. This branch of the barter trade gave occasion to some rather comic scenes; but we were all struck with the modest propriety of behaviour of these primitive savages, which not only surpassed that of any Indians we had hitherto known, but of many whites who claim to be considered civilised persons.

The Mohaves had now been acquainted with us several days, and having brought everything they could think of to barter, at last hit on the notion of offering us fish. The first that they produced, being a rare as well as favourite dish with our company, were extremely well paid; but when the rumour spread among the Indians that we did not disdain this article of commerce, the camp was immediately overwhelmed with them, and, of course, from the glut of the market the price of the goods fell considerably. This the sellers could by no means understand; they, it seems, had calculated that our appetites would increase by what they fed on, and with the appetites the price we should be willing to pay. Among the fish brought in were some distinguished by a large hump on the back behind the head, and of this, as well as of all other distinct species, we added specimens to our collections. Towards evening, as we stood watching the course of the swift stream that we had to cross, and looking over to the opposite shore, we perceived groups of black heads bobbing up out of the water; which heads we found belonged to families of Indians, swimming back to their dwellings with their wives and children. One group especially attracted my attention. It consisted of a young woman, who had very quietly and innocently disencumbered herself of her petticoat in our presence, and folding it up laid her baby upon it in a little flat but strongly made basket, and with this under her arm, a little thing of about four years old held by the hand, and two elder children of seven or eight following her, had taken to the water, pushing the baby's basket before her, and giving a glance backward occasionally at the two youngsters, who were romping and splashing about as they followed in the track she made on the surface of the water. I watched them as they landed on the small island, walked quickly across it, and then plunged into the river again on the other side. It was a pretty family picture: even among heathen savages the sweet and holy affections of Nature bear witness to its divine origin!

The brightest of skies and the most lovely sunshine favoured our laborious work on the 26th of February.

One of the men lying stretched out on the air mattrass, rowed himself over to the island, carrying with him the end of a rope held by some of the people on the bank. Being thus secured the simple vessel was drawn back and a second and third man put across in the same way; and the united strength of the three being then sufficient to draw a heavier burden, the rope was fastened to the large boat, which three men entered together. A second line, long enough to stretch across the arm of the river, was then fastened to the other end of the boat, so that it could be pulled back again, and also be prevented from drifting away in the strong current. The first attempt having succeeded perfectly it was repeated, and as there were soon a sufficient number of men on the island to unload the things and carry them over to the other side, the regular transport of the baggage of nearly a hundred mule-loads began. Lieutenant Fitzball, too, got afloat with his men on the raft, and moved slowly towards the island; but the water was so shallow that the heavy raft could not be brought near enough, and the men had to wade for a considerable distance through it with their things, whilst the flat gutta-percha boat could be drawn up quite high on the sand. Measures had also to be taken for the security of our goods, and one part of our escort was left at the place where the goods were being shipped, and another with their weapons equally ready on the island, so that we could not be attacked by the savages with effect on either side. Our people now worked with a will. The boat flew backwards and forwards, the heap of goods on the island rapidly increased, and that on the shore diminished. As the sun rose higher and warmed the atmosphere the Indians came streaming by hundreds towards us; and the river swarmed with brown swimmers gazing at the marvellous doings of the whites. Some of them came floating down on little rafts made of bundles of rushes (the only species of craft I ever saw among the inhabitants of the Colorado valley), and landed on the island on the eastern shore. It was so gay and ever-varying a picture that we were never tired of looking at it. Every time the boat came in or went off, the Indians hailed the event with wild yells of glee. By degrees they learned the simple mechanism in use, and placed themselves in a row to pull at the rope, making the empty boat fly back like lightning over the water, in the performance of which feat it several times happened that it upset and arrived bottom uppermost. Once this occurred when it had a full cargo; but as it was near the shore little was lost, and the tilt of the waggon kept it from sinking. When the last load of goods had been carried across, the men left on the bank had to assemble in full force to drive the mules and sheep into the river, and compel them to swim over; no easy task, for they shrunk back at the sight of the broad stream and the cold feeling of the water. When the mules had all been got down to the edge of the stream Leroux and some Mexicans mounted theirs and rode in, the men at the same time pushing others in by main force: others again were induced to follow by the cries and howls of the Indians; and as the river was deep at this part they soon got into the current, and were carried by it towards the island, where even the weakest of them landed safely. The getting the sheep over was a more troublesome affair still, for they had no sooner wetted their feet than the whole flock, seized by panic terror, rushed back between the legs of the men, and away to the woods, where they vanished. The exulting delight of the savages at this incident knew no bounds, and off went the whole yelling band, more swift-footed than the sheep, and plunged into the thicket after them. Certainly at that moment few of us expected to taste mutton again till we got to the Pacific Ocean; and imagining that the Indians would be sure to help themselves to our sheep, and we should never see them again, we were beginning to console ourselves with the thought that mule meat was almost as good; but we were mistaken. In a short time the gigantic brown fellows made their appearance again, each carrying a sheep, and proceeding towards the shore every man plunged headlong into the water with his burden. Even those for whom no sheep was left jumped into the water and joined the noisy throng that came swimming towards the island.

They had never had such a jubilee apparently; and they swam round the flock, supporting the weaker animals which the current threatened to carry away, turning back those that seemed inclined to turn out of the right direction, and all with the frolicksome pleasure of a troop of children at play. They came dripping to us on the island without having lost a single sheep, and their eyes sparkling at the fun they had had with these almost unknown animals of the whites, and seeming to look forward eagerly to the continuation of the joke in getting them over to the further bank of the river. The Indians who came floating by on their rush rafts amused almost as much by the tricks they played tumbling each other into the river; and the gambols of the nobly formed fellows, who seemed as much at home in the water as on land, formed really a pleasing spectacle.

The passage of the second arm of the river was effected in the same manner, and just as safely as the first; and in the evening the whole Expedition assembled on the western side, and fortunately with only a few trivial accidents. We had some narrow escapes, however. In the western channel the current is much more rapid than in the eastern; and among other little disasters the boat in which I and a young American, Mr. White, with two servants were seated, turned over in the middle of the stream. I was the only one of the party who could swim, and I had to make great exertions to get Mr. White to where he could lay hold of the tow rope; the two servants, a Mexican and a German, clung fast to the boat, and managed to scramble up on the bottom of it, so that they were drawn safely ashore. Very fortunately I had taken the precaution before entering the boat to fasten my rifle to one of the supports of the waggon frame, that no unforeseen mischance might deprive me of this faithful companion of my travels; and it was well for me that I did, or, heavily clothed and armed as I was, I must have let it go when I was swimming. As it was we suffered no other harm than getting very wet, and that was too common a thing to concern us much; but our poor Dr. Bigelow had very nearly met with a worse accident.

He was sitting in the boat when some soldiers got in and laid their muskets at the bottom of it, so awkwardly that one of them went off just under where Dr. Bigelow was sitting, carrying away part of his stocking, but luckily only leaving a red mark on the skin. We were all pleased with the coolness of the doctor, who, without moving a muscle, said, "It's just as well as if the ball had gone into the air; a miss is as good as a mile!" Besides that the doctor had remained uninjured, it was particularly fortunate that the ball had not made a hole in one of the air bags, in which case our craft would have become perfectly unserviceable, and much time must have been lost in repairing it.

We lost none of the mules in the water, but one or two of them died afterwards from exhaustion, and two or three sheep were drowned in crossing the second arm of the river; these were all the sacrifices that the dangerous stream cost us. Three sheep and a goat were presented by Lieutenant Whipple to the Indians, in return for their friendly services, and at the same time they were strongly advised not to eat them, but to begin sheep-breeding. Flesh meat is, however, such a rare and highly prized dainty to them, that it is not very likely the advice was taken.

CHAP. XVI.

A DAY OF REST ON THE WESTERN SHORE OF THE COLORADO. — THE EARLIEST ACCOUNTS OF THE INDIANS OF THE COLORADO. — DISCOVERY OF ITS MOUTH. — FAILURE OF THE ATTEMPT TO SAIL UP IT. — INDIAN GUIDES. — DEPARTURE FROM THE COLORADO. — THE DESERT. — WANT OF WATER. — THE MOUNTAIN SPRINGS.

THE day after our departure, the 27th of February, we passed on the same spot among the willows where we had landed; for there was so much to dry, and set to rights, and replace, that we could not think of leaving the Colorado till the next morning. The Indians came in to us in still greater numbers than on the preceding days, bringing more and more provisions, so that we felt ourselves quite easy with regard to the supplies for the remainder of the journey.

We took this opportunity to pay a visit to some of the nearest Indian huts, and found them little dark cellar-like holes; domestic utensils made of plaited reeds and willow twigs lay about round the walls, as well as some of clay, and heaps of bast from the worn-out petticoats of the ladies, and various weapons, were thrown together in a rather slovenly manner. Near the door, where only any light could fall on it, was placed a broad stone, upon which, with the help of a smaller one, the corn is ground. In the middle of the hut we saw what we knew must be the fireplace, but it also serves in cold nights for a couch, as the occupants of the hut scrape away the embers and lie down on the warm place.

As our conversation with these people was only carried on by signs, we could not make out very well what were their ideas on the subject of religion; but we understood that the Mohaves are in the habit not only of burning their dead, but also of destroying, in the same manner, all the property that has belonged to them, even to their huts and corn fields. We had no means, however, of verifying the assertion.

They make fire, in case of need, by rubbing a piece of hard wood against a softer; but they are seldom obliged to have recourse to this method, since there are mostly glimmering embers to be found in one or another of the huts; and when on a journey they usually carry a lighted brand in their hands,—a practice that accounts for our frequently finding half-burnt torches of this sort in the valley of the Colorado.

On the old maps of California and New Mexico are often found the names of Indian tribes, whose existence has in modern times been doubted. Missionaries who travelled on the Colorado more than a century and a half ago, first mentioned their names and gave a slight sketch of the geographical position of their territories, though for a long time very little credit was given to their statements; but the more these countries are examined, the more highly we estimate the accuracy and historical value of the accounts of these old Spanish monks. Bartlett, in his excellent "Personal Narrative" (vol. ii. p. 178), mentions "the Genigueh, Chemeguaba, Gumbuicariri, and Timbabachi Indians as tribes of whose existence we know nothing;" but the Chimehwhuebes, whom we met on our journey to the Colorado, are doubtless the same as the above mentioned Chemeguabas, and it is probable that the other tribes mentioned may be found higher up the Colorado, or in the neighbouring regions. Father Kino, who travelled on this river in the year 1700, mentions the Quiquimas, Coupas, Baiopas, and Cutganes.* Of these tribes we found the latter, or Cutchanas, who were the first natives who met us on the Colorado. Of the Mohaves Bartlett speaks as of a great nation consisting of athletic warriors, who live a hundred and fifty miles above the mouth of the Gila, on the Colorado, and this statement we found to be correct, though ours was not the first regularly organised expedition that had come in contact with them; for Captain Sitgreaves had been there with a smaller party two years before us; and from the visits of the fur-hunters no corner of these western regions is secure. He had not, as I have said, met with a very friendly reception from them, but his energetic proceedings had at least inspired the Indians with respect for the arms of the whites.

One of the oldest descriptions of the natives on the Lower Colorado and the Gila, is probably that of Fernando Alarchon, who, in the year 1540, at the command of Antonio de Mendoça, viceroy of New Spain, explored the Gulf of California, and on this occasion discovered the mouth of the Colorado, and, under great hardship, sailed a considerable distance up that river. He speaks of the natives of the country as large, finely built men, who carried as weapons not only bows and arrows, but wooden axes hardened in the fire. He describes further their grindstones and earthen vessels, as well as their maize and mequiqui (probably mezquit beans); and, according to his testimony, they worshipped the sun, and burned their dead.* Padre Gonzago, who travelled up the Colorado in 1746, describes the dress of the Indian women in those regions: "Their dress consists of three pieces, of which two make a kind of petticoat round the hips, and the third a sort of mantle. These pieces are not woven, but the strings are fastened together at the top, and fall down over the body like thick fringes. The women of the more northerly parts are dressed with less cost, being only covered from the girdle to the knee."†

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* Venegas' California, vol. ii. p. 23.

Lieutenant Whipple, who travelled on the Gila with Mr. Bartlett, describes the Yuma Indians living at the mouth of the Gila in the following manner:— "When we reached the Colorado, we met with Santiago, one of the chiefs, who led us into the village of his tribe, where we were saluted by a great number of natives. The women are mostly fat, and their clothing consists of a fringe petticoat made of strips of bast, fastened round the loins. The men are large, muscular, and well formed, and the expression of their faces is pleasing and intelligent. The warriors wear a white apron, and their hair is twisted into cords, and hangs down the back, adorned with eagle's feathers. They are admirable riders, and use the bow and the lance with inimitable skill. While we remained there the Indians were very friendly, and brought us grass, beans, and melons."

In this description, with the exception of the subsequently mentioned wealth in horses, the resemblance of the Yumas to the Mohaves, or rather to most of the tribes on the Colorado, is not to be mistaken. Whether any relationship really subsists between them will soon appear, from a comparison of their several languages, on the publication of the vocabularies made by the officers who have travelled among them by command of the government of the United States, which is always foremost to promote the cause of science.

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* Hakluyt's Voyages, vol. iii. pp. 128–132.

† Venegas' California (trans. by J. C. Adelung), vol. i. pp. 57, 58.

From the mouth of the Bill Williams' Fork to the place where we effected the passage of the river Colorado, we had gone thirty-four miles, and in this distance had risen a hundred and sixty feet, and we now found ourselves at a height of three hundred and sixty-eight feet above the level of the sea. As far as we had become acquainted with the valley of the stately river, it was quite well adapted for cultivation, but not altogether to meet the expectations of white settlers; for besides that the Colorado can probably never be navigable by steamers far up, and for that reason cannot, like the rivers in the eastern part of the North American continent, open a way for colonisation into the heart of the country, there is not, on its banks, land enough adapted to agriculture and cattle-breeding on a grand scale, and there is a want of the woods that are so advantageous to colonists.

The Rio Grande also is not navigable for any great distance, and the woods that crown its banks are somewhat scanty; but on either side of the river, from its source to its mouth, extend vast fertile tracts where whole nations might maintain themselves by agriculture and cattle-breeding. Had the Colorado offered any special advantages to settlers, the first Spanish missionaries, who so long explored the territory of this river, would certainly have taken care that colonies and towns should be founded in its valleys, as well as on the Rio Grande. They refrained, however, from any such attempt, and left to our time only descriptions of the lands they visited. On the river Gila alone are found the remains of an old Spanish mission. Should a railroad ever be carried across the valley of the Colorado, there will be no want of settlers on its small plains; and the defects for which it is now shunned will be easily remedied, or vanish of themselves. The journey through the arid deserts that extend far on both sides of the Colorado will be performed in brief space, and the then cultivated valleys of this river become welcome stations for tourists and commercial travellers. The river may also be navigated in part by light steamers, though all attempts made with sailing vessels have completely failed. The great obstacle is the unmanageable violence with which the tide forces its way in and out again,—a violence that has induced almost all who have explored the Gulf of California, and wished to become acquainted with the Colorado, to desist from their intention. As it now is, so was it three hundred years ago, when the bold Spaniards traversed the Gulf to ascertain to a certainty whether California, of which they knew only the coast, was connected with the main land, or separated from it by the prolongation of the Gulf; and it was not till the year 1700 that they were convinced, by Father Kino, that California was connected with the continent of America, and that only the river Colorado flowed between. When the Father made known this discovery, he received public thanks from the commandant of Sonora, in the name of the king; and the superiors of his order followed this example.

We know, as I have said, of an attempt made in the year 1540, at the command of Antonio de Mendoça, viceroy of New Spain, when Ferdinand Alarchon discovered the mouth of the Colorado, and he describes the dangers to which the vessels were exposed there, and how they were only rescued with difficulty from a situation of the utmost peril. He mentions, also, that he attempted to perform the navigation in boats, and had them dragged for fifteen days and a half up a portion of the river, that on his return he passed in two and a half.

In the year 1746, Padre Gonzago, when on an exploring journey he reached the mouth of the Colorado, made another attempt to enter it, but the current was so strong that he had not ropes and lines enough to drag the boats up against it, and had to give up the plan. In recent times, before California belonged to the United States, the mouth of the Colorado was visited by Lieutenant Hardy, of the English navy, and his account of it has been found quite correct, except that he committed the error of placing the mouth of the Gila in the Colorado, only ten miles above the mouth of the Colorado in the Gulf of California, though subsequent explorations have shown it to be 100 miles above it. The part of the Colorado that we saw was deep and swift, and certainly navigable by steamers, if a sufficiently deep canal were made to lead past the falls that we saw by the Needle Rocks; but below the mouth of the Bill Williams' Fork, where the Colorado forces its way through narrow ravines, the obstacles to navigation are probably of a more serious character.

On the 28th of February we left the spot where we had made the passage, to proceed up the Colorado to the mouth of the Mohave river, and since this stream flows almost the whole way from the Colorado to the Pacific Ocean, we thought we might find in or near its bed a good road for the remainder of our journey. The friendly Mohaves, with whom we endeavoured to remain on the best understanding, had given us two of their warriors to accompany us to the "flowing water" of the Mohave, for from their signs and descriptions we made out that, many days' journey from the Colorado, the river loses itself in the sand, and joins the Colorado underground.

How far this statement might be well-founded could not then be ascertained; but we thought it not impossible that, in the continuation of our journey up the Colorado, we might have come at last upon the dry bed of the Mohave river. The great distance at which we afterwards really found the "flowing water" of the Mohave, confirmed so completely some of the accounts of the Indians, that we felt ourselves compelled to give credit to those that we had no opportunity of verifying.

Under the guidance of the Indians, we left the immediate neighbourhood of the Colorado, and turning out of the close thicket that surrounded us on all sides, four or five miles to the northward pitched our camp under some lofty trees, only a few yards from a lake connected with the river. Not far from our encampment were some dwellings of Indians, who of course passed the day with us, and towards evening, as they crouched about our fires, afforded us a great deal of amusement.

Some of them here had their hair stiffened with clay, and twisted round their heads like a turban, instead of hanging down their backs like the others; but according to M. Leroux, this is only a plan for ridding themselves of vermin. Many changes had been made in our mode of encampment since the loss of our tents, and Lieutenant Fitzball and I spread out our blankets together, under a little bit of outstretched canvas; and as his men kept up a famous fire, at which we sat and gossipped, and smoked the whole evening, we did not in the least miss our tents. We had also the benefit of the company of two pretty Indian sisters of fifteen or sixteen years old, whom we did our best by signs to entertain. I and Lieutenant Fitzball both remembered some of the conjuring tricks of our boyish days, and performed them with great success, and to the exulting delight and astonishment of our guests. It was quite inconceivable to them, for instance, how we could manage, after having cut a string in two, to fasten it together again by merely touching it with our tongues, so that only a wet place was to be seen at the join; but after frequent repetitions of the exploit, the Indians noticed that the string was getting shorter, and perhaps guessed that there had really been only a piece cut off at the end each time. The common trick with the ring and a string also diverted them amazingly; but the crowning marvel was when the lieutenant, showing them one of his front teeth, which happened to be a false one, and kept in by means of a spring, pretended to swallow it, and opened his mouth to show them the empty place, at which they gazed with much surprise. But when, laying one hand over his mouth, and the other on his throat, he managed to replace the tooth, and displayed once more a perfect set, their surprise at such supernatural powers almost amounted to terror. They called all the Indians in the camp before us, and entreated the lieutenant to repeat this incredible conjuration, which he did again and again, every eye fixed the while upon his mouth, until at last one sagacious old warrior came up to him, and gave him to understand that he wished him to perform the feat with one of his other teeth. This of course he declined to do, and the faith of the Indians in our magical power was evidently much shaken by his refusal. They stayed with us till a late hour in the night, and when at last they left us, we effected a barter of some bright buttons cut off our clothes for the two pretty shell necklaces that hung over the velvet-brown shoulders of our fair friends. We offered each of them two good dollars, and some small change, the last remains of our moveable property, but they greatly preferred the buttons, which, being provided with small hooks, could be made to serve as ornaments, while they did not know what to do with the money.

With the earliest dawn of morning, on the 1st of March, our guides, the two gigantic Mohave warriors, presented themselves in our camp, and warned us that it was time to depart, as we had a long way to go to the spot where we should find water. We were soon ready, and turned out of the valley of the Colorado due west, where a bare unfertile country rose rapidly before us. Many Indians accompanied us on this day, and gambolled noisily about the procession, whilst our guides, who had fastened on their feet thick sandals that enabled them to walk comfortably over the rough stony ground, marched on at its head in silence. We passed southward towards a rugged mountain chain that stretched far towards the north, and for a considerable time a dry river bed, which we took for that of the Mohave, proved of great service to us, as we could travel along it, without being so continually hindered by rents and chasms as on the higher ground. Westward of the mountains the river bed turned to the north, and we, keeping still to the west, were led by the Indians to the declivity of a small hill, where there was a good and clear, but not very abundant spring. As we had scarcely gone six miles, we refreshed ourselves hastily by a draught from it, and then pursued our way in a north-westerly direction.

The mountain chain that we had passed round to the south, now lay between us and the Colorado, and the last group of trees that adorns the valley of the stately river had soon vanished behind craggy masses of rock. To the west a mountain chain ran parallel with that now eastward of us, from south to north, and the Indians led us in a diagonal course across the plain that stretched between the two ranges.

It was a dreary, dead-looking country, naked, arid; rocks rose in the distance, and a dry wind swept over the stony, sandy surface, where scarcely a trace of vegetation was to be seen. The Expedition followed in a long line the two stately Mohaves, who walked on silently, with long steps, and without once looking round.

The country was level, but not quite without hindrances, for it was intersected from east to west by long clefts or chasms, that had been gradually worn by the rains, and which often checked our progress. We were now on the edge of the broad waterless desert which stretches from the Gila, beyond the mouth of the Colorado Chiquito, for more than 100 miles. One part of it we had travelled through on the eastern side of the Colorado, though in the valley of the Bill Williams' Fork we did not so much notice it; but now its desolate monotony, and frightful arid character, showed itself on all sides.

All but two or three of the Indians, besides our guides, had turned back at the spring, as if they dreaded the parched wilderness, which is indeed avoided even by the wolves and foxes. It is, however, by no means unknown to the Mohaves, for before we left their village they made to us very intelligible signs that we should only find water four times in the whole tract between there and the Mohave river, and advised us to travel as quickly as possible.

As it subsequently appeared, these springs were so hidden in the mountains, that had it not been for our guides we should certainly have passed them, and our doing so would in all probability have led to our destruction. The services of the Indians were therefore of inestimable benefit to us, and without their guidance we should, perhaps, never have taken the way that led us by the shortest route to the Pacific. As we approached the western chain of rocks, the desolation of the prospect was sometimes relieved by the presence of a solitary yucca, mournfully stretching out its naked branches with their crowns of leaves over the bare ground. The Indians had intended to guide us this day to another mountain spring, but they had over-estimated the strength of our animals, which were so exhausted as to be scarcely able to move, having had to ascend 1500 feet in the twenty-two miles we had travelled since the early morning.

The sun was declining towards the western mountains, when our guides pointed to a promontory still five miles off, which we should have to pass round in order to reach the promised spring, and we would willingly have gone on, but Lieutenant Whipple, in consideration of the state of the cattle, decided that we should remain where we were, and not seek the ravine where the water was till the following day. We fed our fires this evening with the dead stems of yucca that were lying about, and which gave a peculiar oily kind of smell, and little heat. Our couch was very hard and inconvenient, for besides that there was scarcely level space enough to stretch ourselves out upon, there were sharp stones sticking up everywhere through our blankets, which militated considerably against the luxury of our accommodation. We therefore saluted with great joy the rising sun, though it was impossible not to grieve at seeing our poor cattle standing dejectedly about, after seeking in vain for food, and we therefore made what haste we could to set out towards the spring.

Three of the Mohaves who had hitherto escorted us took leave of us on this day, and returned to their own people, apparently contented with the treatment the guides received from us, and prepared to tranquillise the minds of their brethren on the subject, — for it had not escaped our notice that the tribes on the Colorado had felt some anxiety concerning the fate of the two guides whom they furnished to us, and that the other Indians had probably attended us so far with a view of watching us.

On reaching the foot of the mountains, we proceeded in a northerly direction, though with frequent interruptions from the beds of torrents issuing from them, the sides of which were so steep and rocky, that we often had to ride a long way round to discover a place adapted for a passage. After a two or three hours' march, we reached a particularly deep gorge, where, instead of climbing out again, our guides turned towards the mountains, and the whole train followed them, though our mules made their way very slowly over the loose stones, and the little waggon with the viameter more slowly still, having indeed sometimes to be carried. Where the mountains began to tower up high above us, we discovered the first traces of water, as a small brook trickled over a few acres of land, and then vanished again in the sand at the end of the valley. Reeds and rushes must at one time have grown luxuriantly at this spot, for on the top of the banks we saw many heaps of them, which had apparently served the Indians as couches. In the valley itself the reeds had been burnt away, but green sprouts, bursting here and there from the ground through the black ashes, announced the approach of spring. We thought we had now reached the spot where it would be best to encamp, but the Indians led us still deeper into the mountains, until we came to a small valley, which at that time of year, when it showed only a withered vegetation of grass and shrubs, had no particular attraction; but lying as it did, hidden among lofty rocks, and surrounded by a dreary inhospitable desert, might, later in the spring, or in the hot summer, appear to a traveller coming upon it accidentally as a marvel of fertility. It seems that the Indians cultivate there fields of maize and wheat; everything indicated that at certain seasons it must present an animated appearance, and the number of turtle-shells lying about showed this to be a favourite food of the natives of the country. The mode of its preparation is unfortunately very cruel — for the savages lay the living animal on its back on the glowing embers, and roast it in its own shell; but even this is not worse than the practice in some civilised countries, where the quivering flesh is cut off and sold by the pound. Wherever we found water we found also the remains of turtle, but we did not succeed in obtaining a single living one; a proof how eagerly they are pursued by the Indians.

We found ourselves very agreeably situated on the banks of this full-flowing brook, where there was grass for our cattle in the valley, and even on the declivities of the nearest rocks; the sun shone warmly and pleasantly; the dry wind that had troubled us so much on the preceding day could not find us out here, and the soft sand on which we spread our blankets, was a very agreeable change from the sharp stones on which we had to rest our wearied limbs the preceding night, a couch that had left them still sore and stiff.

CHAP. XVII.

DIVISION OF THE EXPEDITION. — SCARCITY OF WATER. — DESOLATE MOUNTAIN LAND. — SAND STEPPES. — THE DRY SALT LAKE. — UNDRINKABLE WATER. — WARNING AGAINST THE INDIANS. — REUNION OF THE EXPEDITION. — ARRIVAL AT THE FLOWING WATER OF THE MOHAVE RIVER. — JOURNEY THROUGH THE VALLEY OF THE MOHAVE. — ROBBERIES OF THE PAH-UTAHS. — MURDER OF A MULETEER. — PURSUIT OF THE SAVAGES. — DESTRUCTION OF THEIR CAMP.

On the 2nd of March we left the valley with its pleasant spring, and following it when it became a ravine deeper into the mountains, came to its end at a steep ridge. Slowly the Expedition climbed this, until at the summit of the height a wide prospect to the west unexpectedly opened to us. A dreary and inanimate plain lay before us, the monotony of which was not much relieved by the yuccas that stood pretty thickly towards the west; but what did essentially improve the prospect, was the rocky range of hills that rose behind them, and beyond these again, white glittering peaks, which we took for the southern points of the Sierra Nevada. Descending from the mountain ridge into the plain, we followed our guides in a southwesterly direction, over a tolerably good road, but we had to halt for the night in the arid desert, and content ourselves with the scanty supply of water we had brought with us, only consoling ourselves with the thought of having advanced twenty miles nearer to our journey's end.

On the following day we reached, in a short march over a hilly but equally barren country, the second spring mentioned to us by the Indians, in a ravine formed by blocks of granite and other rocks, from a cleft of which trickled out very sparingly a small supply of water. Before we could water the cattle, it was necessary to open the rocky vein a little more, and make a hollow where the water might collect; and even then we could only enable the animals to drink by one or two at a time, so that the business took all the rest of the day. After our late severe marches, a day of rest seemed indispensable for them, and it was therefore determined to pass the 4th of March at this spring, especially as other arrangements would now have to be made for our journey. The Indians had, with much sagacity, pointed out to us that the next water we should come to being a mere water-hole, it would not be possible for so great a number of men and animals as the Expedition consisted of, to quench their thirst at it at the same time — not more probably than the third part of them. This suggestion was of course attended to, and the party formed into three rather numerous divisions, of which the first was to leave on the 5th of March, the second early in the morning of the 6th, and the third in the evening of the same day. By leaving thus an interval of fifteen or sixteen hours between the visits of each division, it was hoped there would be time for the spring to fill again, and to make surer of this, the first party was to clean and enlarge the hole. I joined the company that started first, and we took leave of our comrades at an early hour, and then followed our Indian guide, who stalked on in silence as usual; the other Indian remaining behind to conduct the second party. A striking, and by no means advantageous change had taken place in the appearance of these two since they had left their home. When they joined us on the day of our departure from the Colorado, their fine muscular naked forms were fully displayed; but now their powerful limbs were hidden under such a heap of clothes and coverings, that they were scarcely recognisable. Every one had been eager to bestow on the guides who had served us so faithfully whatever article he could spare from his wardrobe, and they had immediately donned it with stoical composure, so that they now looked like wandering bundles of old clothes.

We travelled on the first day almost exclusively through deep ravines, overgrown here and there with scattered cedars and yuccas, and in some of which we even found the remains of a former fall of snow. In the afternoon, the way lay through a wide basin-shaped valley, enclosed by masses of mountains that formed a somewhat discouraging prospect. We thought we could trace in this valley the dry bed of a river, but in the irregular rising and falling of the ground it was not easy to determine in what direction any stream of water would run. We rode on till evening, and then unsaddled our mules, and prepared to pass the night on the spot where we happened to find ourselves, namely, one mile from a lofty chain of rocks.

On the following morning the Indian led us straight to the first mountain, and showed us in a small ravine the hidden spring we were in search of, where we found turtle shells, and other traces of Indians, but no more cultivated land, for even close to the spring the ground was so stony and unfruitful, that nothing whatever would have grown upon it. The store of water, which lay in a tub-like hollow in the ground, was hardly sufficient to water our cattle, but we cleaned it out, and took care to convince ourselves that fresh water was running in before we set off again. We had not proceeded far into the highlands before us, when the ground, that had so long been ascending, suddenly sank again, and opened an extensive view over a dreary mountainous country. According to our conjecture, the Mohave river, or rather its bed, described a wide circuit to the north-west, and then turned towards the east. Judging by the dry beds of the torrents of rain water that had made their way, some eastward to the Colorado, and others westward to the Mohave, we must now have been on the water-shed between those two rivers, and this was also the highest point on which we touched in the latter part of our journey. The whole distance from Fort Smith was now 1647 miles, from Albuquerque 813, and from the Rio Colorado of the west, 97 miles. When we left the Colorado, we found ourselves 368 feet above the level of the sea, but on this water-shed no less than 5262; so that in the last 97 miles of our journey we must have ascended 4894 feet. Our latitude was 35° 11′ north, our longitude, 113° 21′ west from Greenwich. The fall of the country from this point is so rapid, that for every mile of distance we found ourselves on an average 101 feet lower.

The path along which the Indian led us was an old one, and we saw on our way little heaps of ashes, amongst which embers were still glimmering, while around them on the sand were tracks not only of men, but of women and children; so that even in this desert it appeared human beings could exist. I scarcely know how I can give an idea of the desolate character of the scene through which we had now been passing for several days. We were continually going down, sometimes gradually following the course of rocky ravines, sometimes winding round terrific precipices, or scrambling down abrupt descents, where the loose stones came rolling after us at every step. I found it a dreadfully fatiguing march, and the more so, as I was on foot; for in order to spare my mule, I had let it run with the herd, without anything to carry but the saddle, and the things I had got by barter from the Indians. Our guide, however, seemed to possess muscles and sinews that knew no fatigue, for he followed with the most perfect indifference any road that presented itself, without ever altering his long swinging pace. The mountain ranges that we had seen from the heights towered up higher on both sides as we descended, and towards evening we found ourselves in a rocky hollow, that led into a gradually widening ravine, and following this, a sudden turn brought us unexpectedly to the edge of a valley, stretching from north to south. But what a valley! A frightful waste of sand extended for full twenty miles, and intersected by a range of volcanic rocks and hills, as dreary as the arid sand steppes by which they were surrounded. Through this desert the Indian told us we must pass to come to water, and he showed us in what direction it was to be found. We saw, or thought we saw, the red beams of the setting sun reflected in a lake or river, and we could distinguish a white streak like a strip of snow at the end of the valley; but the distance was too great, and men and cattle too fatigued, for us to attempt to reach it this night, so we stretched ourselves on the sand, to await the following day.

On the 7th we were early on the way, through loose sand, in which our heavily laden mules sank in above their hoofs at every step, and the fatigue was increased by the ground being now heated by the full power of the sun, and no cool draught of air refreshing the atmosphere. As we passed the volcanic hills (25) and sand downs, we saw here and there fine blades of grass sprouting out of the ground, and were induced, for the sake of our cattle, to make a short halt. From this point we had a view over the second half of the sandy valley, and it looked like a field of snow. At first we supposed this white appearance to be some delusive atmospheric effect, but we soon found that we were on the bank of the spacious bed of a lake from which every drop of water had been dried up; but the salt with which the water had been impregnated had been deposited in a crust half an inch thick upon the loose earth, into which we broke to the ancles, so that a deep path was formed as we walked or rode after one another.

Through this white plain, which we named Soda Lake (26) we proceeded in a south-westerly direction, and when we had reached the middle of the bed of the lake, I stepped out of the rank, to take a leisurely view of the scene and impress it on my memory, though it was of too uniform a character to be adapted to a picture. East, south, and west, the limits of the lake could be distinguished by the strip of yellow sand that lay between the white surface and the bordering ranges of rocks; but towards the north the rocks advanced so as to form a wide gate, through which I could see in the remote distance the bed of the lake blending with the horizon, while isolated rocky islands rose like obelisks from the dry salt surface. Whether I really saw the end of the lake, or that it stretched still farther towards the north, I could not tell; but as the base of the rocky islets appeared as rounded as their summits, and the atmosphere over them quivered continually, I could not doubt that the forms of objects were much altered by refraction, and the same phenomenon was perceptible till noon on the following day.

On the afternoon of that day we reached the end of the Soda Lake, but we were scarcely yet in the middle of the valley, which extended far to the south, where the sandy ground began to rise a little: the Indian pointed to it, and gave us to understand that there was much water in it. We saw, in fact, some hollows containing water as clear as crystal, and stooped eagerly to relieve our painful thirst, but our lips had no sooner touched it than every one started back in disgust at the intolerably bitter taste. It was almost undrinkable for human creatures, but it was all we had, for the little stock brought with us had been used up in the morning, and we were compelled to prepare our food with this horribly unpleasant stuff. We dug in various places, and water soon collected in them, but it was all the same, and even our mules turned away from it two or three times before they could resolve to drink it. As soon as they had drank, the salt in it began to produce its effect in increasing their thirst, so that they had to return again and again to the pools, which, bitter as they were, cooled their mouths.

It had struck us all that, after leaving the Colorado, we had met with no living creature but some horned lizards. I had found a dead humming-bird that lay with outstretched wings, and quite dried up upon the sand, as if it had been suddenly struck by death while on its flight. I picked up the pretty little creature, and afterwards put it into a letter that I sent from California to Europe. The absence of animal life in regions so unkindly treated by nature was not surprising; but the presence of natives was, and by the tracks it appeared that they had lately been crossing the sandy plain in many directions, and at no great distance; — probably they had been observing us, and had scraped themselves a hiding-place in the sands (a practice of the natives of these regions when they wish to remain concealed), in order to fall like wolves on any straggling mule they could find — tear it to pieces, and eat it up. If they had this design they would have thought it better not to present themselves openly in our camp, even for the sake of begging. What these people — contemptuously called by our Mohaves, Pah-Utahs — live upon, remained long a puzzle to us, until our guide explained that they subsist somehow on snakes, lizards, frogs, and roots. He advised us to be on our guard against the Pah-Utahs, as they were very likely to come in the night and kill some of our mules with arrows.

According to the description given us of these people, they are little distinguished from the lower animals in their character or mode of life; they are as wild and shy of man, as fierce after prey, as the beasts of the forest; and they hovered about us continually, and committed many acts of petty mischief, without our ever catching sight of any one of them. We paid all due regard to the warning given us by our guide at the Salt Spring, and since our company consisted only of thirty men, we divided them, in case of any night attack, into four watches, one of which had to remain constantly on their post; and since no one of us desired to shirk this duty, we could all feel secure when we slept of being watched by a strong and well-armed guard. About midnight the attention of the watch was attracted by a distant, but gradually approaching trampling of horses' hoofs. The natives of these regions do not possess horses, and the sound approached from the direction of the route we had just passed, so that we felt little doubt that it was one of our own divisions, and we were right, for Lieutenant Whipple and his party soon rode into our camp, having made the journey in perfect safety. Lieutenant Fitzball and his men arrived soon afterwards, but rode on farther in the direction pointed out by the Indians. I had left my mule behind with Lieutenant Whipple's pack train, and though, during our three days of separation I had managed to keep up with the Indian, I must own it afforded me no small joy, when, running to the herd immediately after their arrival, I saw my own beast, apparently stronger than ever, trotting along the salt-covered turf, and cropping every tuft of grass with eager appetite. After this happy meeting, I lay down to sleep in a much more comfortable state of mind, for though I was tolerably well accustomed to hardship, I did not like the prospect of another march on foot. I had already walked seventy miles in three days, over a wild country, and that in thin Indian mocassins, out of which my feet were already making their appearance in the light of day; but these Indian chaussures are, on the whole, preferable to our heavier boots, especially if the feet have become a little hardened, and no longer object so much to sharp stones. I, like most of the other members of the Expedition, had but small remains of shoe or boot to display, the greater part of them having fallen off, and though the dead mules' hides had, by the help of our Mexicans' skill, hitherto supplied us with a useful article that might be called stocking, or half boot, at pleasure, even these would have failed us if the journey had lasted much longer, and we should have been reduced to Indian sandals.

On the 8th of March we left the salt-springs, and set off again in a southerly direction, through a deep ravine, formed by overhanging rocks; and after a rather severe march through deep sand, reached, at the mouth of it, to our inexpressible joy, the flowing water of the Mohave, which rippled at a clear stream over smooth, well-washed pebbles. Every one rushed to it, to relieve his burning thirst, and many, not content with that, stripped themselves and bathed, though the water was very cold. Near the place where Lieutenant Fitzball had halted, we also made our bivouac; but as his provisions were running short, he had hastened on in forced marches, and we saw him no more till our return to Washington. Now that he had reached the Mohave, there was no fear of his losing his way, for he had but to follow the valley of the river, and he must arrive at the settlements of San Bernardino valley, and the San Diego road. From the place where we lay, we could follow the course of the Mohave for a short distance; but it appeared that it must lose itself in the sand before reaching the Soda Lake, though which of the many dry river beds that we had touched on, or could see from a distance, was that of the Mohave, could only be determined by close examination in the rainy season, when the waters collecting at the

Soda Lake must find an outlet somewhere. The water of the Soda Lake itself, probably, never flows off entirely; for the crust of salt left on its bed indicates that in seasons of drought it partly evaporates, and partly sinks into the ground.

Before continuing our journey the next day, we were once more warned by our Indian guides against the evil-disposed Pah-Utahs, who, according to them, harboured in the caves and holes in the rocks on both sides of the Mohave. There were many traces of them, but we saw nothing of the savages themselves, and it seemed that they were fleeing before the Expedition, so that our people were thrown off their guard, and received, in consequence, a melancholy lesson.

Before the ravine from which the Mohave river flowed the Expedition was once more divided, in order that the waggon with the viameter, with the young men in charge of it, and a sufficient escort, might take the more convenient way through the narrow valley of the river, whilst the pack mules and the rest of the riders should cut off a bend, and follow a path over the mountains, the two parties meeting again higher up the river. Dr. Kennerly and I, in the hope of finding some sport on the water, had joined the waggon party, and we soon found ourselves surrounded by steep rocks, which sometimes pressed closely on the river, sometimes retired and left it ample room for its windings. On both sides of the stream, which was nowhere more than sixteen feet wide and frequently not more than five, there was room enough for the light waggon, drawn by four mules, to make its way conveniently. Tempted by the appearance of some ducks we rode on ahead, rejoicing in the sight of every patch of green grass, after having so long seen nothing but dreary barren mountains and sandy steppes. The reeds and rushes, which had at first grown scantily, soon became so thick that at a turn where we expected to meet with our companions we had great difficulty in making our way through; but we reached the rocky path nevertheless before the others, who had loitered in the camp after our departure, had begun to descend it. Proceeding slowly and occasionally resting, the two Mohave Indians, the advanced guard of the party, at length came up with us; and it was now evident how greatly the mules had suffered from the fatigues of the journey, for more and more of them had had to be relieved of their burdens and were driven slowly along by the muleteers. The latter had orders never to lay aside their weapons, for we came so frequently upon traces of the natives that we were convinced they were hovering continually about us, and in all probability, themselves unseen, were looking down from every rocky cleft and hiding-place, watching for an opportunity of cutting off any straggler, whether man or beast, that they could perceive. For a short distance we all went on together through the widening valley; but when the Mohaves turned up another rocky path, for the sake of a short cut, we parted again, I and a few companions following the little waggon. The river, or rather rivulet, here described such short windings, and its banks were so thickly overgrown with bushes, reeds, and rushes, that we had to make our way sometimes on one side and sometimes on the other; and for nearly two miles we travelled along the sandy bed itself, as the water here made its way through beneath the surface of the ground. The right bank after this formed a kind of narrow plain, slightly sinking, so we worked our way up to it, and keeping a straight course on it, saved a considerable turn that the river made at this part, and struck it again where it wound through a grassy meadow. Here we halted for the chief train, which did not come up for a few hours, having stopped to rest in the mountains, and we then settled ourselves together for the night. We were talking comfortably round our fire, when the quartermaster's major-domo came up and reported that one of the muleteers, who had been in the rear with three tired animals, was missing. By inquiry among the Mexicans we found that several of them had passed and seen him sitting on the banks of the river, while the three mules were grazing quietly near him; and to the warning of one of his countrymen that he ought to keep his rifle, which he had carelessly thrown across the back of one of the pack mules, ready to his hand, the thoughtless fellow had answered that the fear of the Indians was all nonsense, and that they might take his rifle if they liked, he would follow with his mules. Leroux, when informed of this, said indignantly, that if he had not been too lazy to carry his rifle he would not have been murdered, as he certainly must be, or he would have arrived long ago. "I know these Indians," he added; "where they see a rifle they will not venture. It is of no use now to make any search for him or his mules, we cannot bring them to life again." We all thought it likely that the search would be vain; but four armed Mexicans were sent back on the following morning, to endeavour to gain tidings of the missing man, as there was a bare possibility of his having merely lost his way.

The whole Expedition waited anxiously for their return, and for the intelligence they would bring;

but it was noon before we had any sign from them. At last we saw a dense smoke rising and rolling away in black clouds from a ravine overgrown with thick reeds, and this we immediately concluded to be a signal; and in less than ten minutes a dozen of us were mounted and hastening towards the eventful spot. I chanced to ride near Leroux, who as we were galloping along put another bullet into his rifle; but said at the same time, "It is all of no use! The Mexican is dead and his mules too, and the Indians are sitting there among some of those jagged peaks, and laughing to see us riding ourselves and our mules to death. If we want to catch them we must try it at night; and even then what could we do but shoot a few of them through the head in their camp."

We had soon reached the ravine through which the Mohave river flowed, and the first thing we saw was one of the missing mules, shot dead with arrows, lying at the foot of a rock, and then the tracks of the others, which had been driven towards the mountains; but they were soon no longer recognisable upon the flinty ground. The reeds had been burnt down over a considerable space, and we carefully sought over the whole blackened field of ashes for the remains of the unfortunate Mexican, of whose death there could be now no doubt. We found a place where a great heap of bleached horse bones pointed out what was probably the scene of many a festal banquet of the savages of these regions, when they had succeeded in stealing a horse from Mormons travelling on the Emigrant road, from the San Bernardino settlements to the Utah Lake; but we discovered no further indications of what might have been the fate of the Mexican, and as night came on we were compelled to go back without having effected anything. The four Mexicans had got back before us; but they had seen nothing of the natives, and had only set fire to the reeds to search the better for the remains of their comrade (of whose end they were quite convinced), as well as to drive out any of the treacherous savages who might be lurking among them. Discontented with the failure of our attempt, when on the following morning Lieutenant Whipple set off with the half of the Expedition to wait for the rest a day's journey further on, nine of us, amongst whom were Lieutenant Ives, Dr. Kennerly, Lieutenant Stanley and myself, set off on foot, to make one effort to pursue the savages to their den; and at least to avenge on the murderers, by a few effective shots, the treacherous slaughter of our companion. We went first to the carcase of the mule, and then searching for the traces of the other two, pursued them towards the mountains.

It was a difficult task to follow the track over this rocky ground, where we could only be guided in our search by pebbles that had been displaced; but uphill and downhill we went, through the dreary desert, and never lost the track, though for this we were chiefly indebted to an old Mexican, the same who had formerly taken the two Tonto Indians. In a steep rocky ravine, which probably one of the wearied animals had not been able to climb, the savages had shot it dead with arrows, cut it in pieces, and so dragged it along with them. We found there only a clean gnawed leg-bone and the contents of the entrails; even the blood the Indians appeared to have drank, or if not, to have carried it with them. These signs showed, at all events, that we had taken the right way, and moving with the utmost possible silence and caution, we continued to follow the path we had found.

We at last reached a narrow ravine that led round a sharp-peaked rock, isolated on three sides; and we felt sure that we could be at no great distance from the Indian camp, but we scarcely imagined we were quite so near, when suddenly, as we turned the corner, we came in sight of the smoke of a small fire rising from a hollow before us, which the Indians had evidently left that moment, for they had not even had time to take their bows and arrows with them.

We distributed our party instantly, and rushed towards the nearest heights to get, if possible, a shot at them, but nothing met our eyes on all sides but hopeless, naked rocks. The forsaken Indian camp was a true picture of a detestable murder hole. A small fire, that had been fed with dry twigs, glimmered among the ashes, and upon these lay the entrails of the animals, full of blood. The heads and the limbs of the mules, which had been gnawed by the savages, lay scattered about and completed the disgusting character of the scene; and among the bloody remains we saw weapons and utensils, the latter mostly of very skilfully plaited wicker-work, thrown about in confusion. A little apart from these things lay the cap and the trousers, of the murdered Mexican. Poor fellow, he must have suffered a most painful death, for the trousers were covered with blood and pierced in many places with arrows;—the victim had evidently fled before his murderers, and been gradually shot down;—and it was very possible that his blood was mingled with that of the mules in the disgusting receptacles we had seen.

We sought long in vain for the body of the murdered man, that we might at least give him decent burial; and we had, indeed, brought spades with us for the purpose; but we never saw anything more of the poor fellow, who had left a wife and five young children in New Mexico, to wait in vain for the return of their husband and father. As I climbed the rocks, at the foot of which the Indian camp had been placed, it became clear to me how they had been able so suddenly to make their escape. Near the summit, from which a wide prospect could be obtained over the surrounding country, a natural cavern was formed, where some of the savages had evidently lain, and, as they consumed their sanguinary meal, they had been able to cast a glance down into the ravine. Their immoderate indulgence in this meal of flesh had probably hindered them from saving their possessions, and by this means the property of the troop, of from twelve to sixteen men, had fallen into our hands. The weapons, and some of the prettily plaited baskets, we kept, but all else, with the remains of the mules, we threw into the fire, scraping together the glimmering ashes, and adding all the combustibles we could find, and so confiscated and burnt the entire possessions of the ferocious troglodytes.

The melancholy fate of the poor Mexican went to all our hearts, and we could not get out of our thoughts what the terror and the sufferings of the poor fellow must have been, when he found himself in the hands of his merciless murderers. Gladly would we have stayed to punish the savage wretches for their treachery, but six days' extra provisions would have been necessary to enable us to scour the mountains round, and as our whole remaining stock would scarcely suffice for a week longer, it was necessary for us to be extremely careful in order to reach without distress the settlements at the southern point of the Sierra Nevada, whose glittering peaks only just showed themselves in the west.

Towards noon we returned to our camp, which Lieutenant Whipple and a part of the Expedition had left in the morning, whilst Lieutenant Johns, according to agreement, waited for our return. Having taken a few hours' rest, after the morning's fatiguing march of twelve miles through a rocky ravine, we again mounted our mules and rode off to join Lieutenant Whipple. We did not come up with him till late in the night, though his camp fires had been for a long time in sight; but we found the whole party still up, and anxiously waiting our arrival, for there was not one who was not sincerely grieved for the fate of the poor Mexican. Unfortunately we could only confirm the bad news already known.

We now found ourselves in the neighbourhood of the emigrant line of march, commonly known here as the "Spanish trail." A level country through which the Mohave wound, lay before us, and the proud summits of the San Bernardino mountains, round the foot of which the road led, had long been visible. We did not, therefore, longer require the services of the two Indian guides, who had led us so faithfully through a hundred and fifty miles of wilderness, and dismissed them to their beloved valley to those who had perhaps long been watching for them, and to reach whom they would have a second time to traverse the wide desert. A feeling like that which led us so frequently to lift our eyes longingly to the blue summits of the Sierra Nevada, the frontiers of civilisation, had led the Indians to turn theirs back to the east; but what stirred the hearts of both was at bottom the same love of country and of home.

CHAP. XVIII.

RETURN OF THE MOHAVE GUIDES.—THE EMIGRANT ROAD.—MEETING WITH TRAVELLING MORMONS.—NEWS OF THE MURDER OF CAPTAIN GUNNISON AND HIS OFFICERS BY THE UTAH INDIANS.—DEPARTURE FROM THE MOHAVE RIVER.—THE SAN BERNARDINO MOUNTAINS.—THE CAYON PASS.—RAIN.—TEMPEST IN THE MOUNTAINS.—DISMISSAL OF THE LABOURERS OF THE EXPEDITION.—FIRST SIGHT OF THE COAST OF CALIFORNIA.—THE MORMONS AND THEIR HISTORY.

Our two Indian friends were presented with rich gifts on their departure, and Lieutenant Whipple also added two mules in acknowledgment of their services, in order that they might, as he supposed, more readily reach their homes; but they declined to accept the animals, and begged to have some blankets instead, which were readily given. They made us understand that they, as well as ourselves, would have to be on their guard against the wicked Pah-Utahs, and must return to their homes by a mountain path that no mule could travel, but on which it would be easier for them to keep themselves concealed from the ferocious inhabitants of the desert. We wished them most cordially a safe and happy return, and they stretched their brown hands to shake ours at parting (a custom they have learned from us); and then they turned and walked away along the banks of the Mohave, and the thick bush soon hid them from our sight. We also now took our departure, passing along the north side of the river, and, after a march of only three miles, reached the much-travelled

Emigrant road, leading from the settlements in the San Bernardino valley to the asylum of the Mormons on the Great Salt Lake.

The day was warm and agreeable, and we rested a few hours about noon, and then crossed the river, which is here of considerable breadth, and continued our journey uninterruptedly along the southern bank till we came to a thickly-wooded valley, where we passed the night. For a distance of forty-five miles we kept near the Mohave river, following the broad and tolerably convenient road that has now been travelled for many years. The banks of this stream offered us the now unaccustomed sight of lofty trees, which varied the lower willow woods covering extensive districts, but leaving occasionally spaces of reed-like grass. The river itself varied in breadth from five to thirty feet, but we came to places where it made its way under the surface of the ground, and showed only a dry bed. All over the valley, which was entirely enclosed by barren hilly country, we saw the indications of an extremely active intercourse being carried on through it at certain seasons of the year. Felled trees, places where large camp fires had blazed, skulls and bones of animals that had been slaughtered by emigrants, and the fragments of broken waggons, were to be seen all about. A human skull, too, lay by the wayside, seeming to gaze at us with its eyeless sockets; it had been gnawed clean by the wolves, and had served probably as a foot-ball for many a passer-by. Some of our people were beginning to kick it about, but I alighted and went to examine it, thinking that if it were an Indian skull it might be an acceptable addition to our collection; it had, however, evidently belonged to a white, some emigrant very likely, who had made the long weary voyage from his home, animated by high hopes and bold projects, and, after a few days' journey more, had met his end in the wilderness. It was a kind of solemn *memento mori* to other wayfarers — reminding them to be prepared for their last journey — and, after speculating for a moment on the question whether it were the last memorial of a poor labourer, of a wealthy traveller come hither for the gratification of his curiosity, or of a struggling father of a family, seeking a subsistence in these remote regions, I threw it into a close thicket where it might decay undisturbed and fall to dust, and then rejoined my noisy, merry comrades, and galloped on with them, rejoicing now in the hope of soon beholding from the harbour of San Pedro the white foam of the Pacific.

On the 12th of March we met, for the first time since leaving the Rio Grande, some mounted travellers, driving before them a herd of laden mules. They were four Mormons, stout energetic looking fellows, who, trusting to their good fortune and their good weapons, were making their way towards a distant goal — the great Mormon city on the Salt Lake.

Travellers meeting in the wild regions of the Far West always stop to exchange friendly greetings with each other, and go through a course of reciprocal questionings, on their journeys, and the news of the day, as far as they are known to either party, and accordingly, we began a conversation with the Mormons, and mentioned the long duration of our journey.

"If you have been so long as that without any news from the United States," said one of them, "very likely you do not know that Captain Gunnison, who commanded the Expedition north of yours, has been murdered with several of his officers by the Indians."

It may be imagined what a sensation this melancholy intelligence created amongst us, and unfortunately it was but too true. When on the territory of the Utah Indians, Captain Gunnison had left the main body of his Expedition, and proceeded with some of his officers to examine a route in another direction; and as he had taken with him also four soldiers and his cook, the little party consisted altogether of twelve men. For better protection from the cold and violent wind, they had one night pitched their tents behind a cane brake, and the night passed without any disturbance. In the morning they were all enjoying their breakfast, and a Mr. Kern, a German, and the draughtsman of the Expedition, having finished his meal first, had risen, and was stretching himself with great appearance of comfort, when suddenly a shot was heard, and at the same moment he clapped his hand to his side, and fell lifeless to the ground.

The shot had been the signal for a general attack from a band of Indians, who had been lying concealed in the cane brake, and now rushed out filling the air with wild yells, and brandishing their weapons in the most threatening manner. At the first shot, Captain Gunnison had sprung up, and thinking there might be some mistake, made the Indian sign of peace, by holding up both his hands unarmed. It was but for a second, but it was enough; for in this position he was a regular mark for the Indian arrows: a sheaf of them were instantly buried in his body, and he fell mortally wounded. Several more of the whites were stretched at the same time wounded and dying around, and more and more murderous savages were rushing from the thicket.

This account was given by the cook, who at the moment of the attack was occupied with his kitchen a little apart, and leaping upon a horse that happened to be near, he galloped off and escaped impending death, as did also three of the soldiers and a sergeant. One of them owed his life to an extraordinary chance. He had snatched his musket and cocked it, as he heard the war yell, and was just entering the tent, when an Indian stood before him, with his bow in his left hand, and in the right the arrow on the string, drawn to his ear. The soldier having his finger on the trigger fired instantly without taking any aim, and the Indian fell dead with the ball through his skull. The soldier then cast one glance at the scene of murder, perceived the tenfold superiority of the savage enemy, and springing on a horse, galloped after his comrades, and brought to the chief train the melancholy intelligence of the murder of Captain Gunnison and six of his officers.

Lieutenant Beckwith, of the United States Artillery, the commander of the escort, on whom the command of the whole Expedition had now devolved, immediately set off with a division for the fatal spot, and found, as might be expected, the seven bodies mutilated in a frightful manner, not only scalped, but even the mustachio cut with the lip from their faces. All who had not fallen in the first moment had evidently defended themselves with desperate valour, and even the Indians had acknowledged this in their manner, for they had cut the brave hearts from their breasts, and the strong arms from their bodies, and carried them off with them.

Lieutenant Beckwith had no means of burying the bodies, but he protected them from the wolves by heaps of stones and twigs, and took a sorrowful leave of the spot, where he had lost a brave commander and so many faithful comrades.

On their arrival at the Mormon settlement on Salt Lake, they made known the melancholy occurrence, and Governor Young sent off a division of his people to afford proper burial to the remains of the fallen; he also managed to obtain possession of Captain Gunnison's papers, which had been stolen by the Indians, and which contained the most important memoranda concerning his journey. So that Lieutenant Beckwith was enabled to draw up a complete report concerning it. Such was the account we obtained from the Mormon travellers, and on our arrival at Pueblo de los Angelos, we found it to be correct in every particular.

On the 13th of March, we at length reached the spot where we had to leave the Mohave river, there about 100 yards broad, and hasten westward to the San Bernardino Mountains; about noon we had the river behind us, and made a halt upon its northern bank, before commencing the long journey of eighty-five miles over the plain ([27]) which separated us from them. We allowed our mules to feast on the fresh green grass that sprouted out from amongst the black burnt stubble, and then set forth to traverse the plain.

The road was good, but we were not able, as we had hoped, to do it in one march, for our mules were tired out. We therefore threw ourselves down among some scattered yuccas and cedars, to wait for the herd that had been left behind, and for the following morning, before attempting the Cayon Pass, which lay still some miles distant. Lieutenant Johns here left us with his men for San Diego, with the intention of sending us back some provisions, for we had now scarcely half a day's rations left.

A short march brought us the next day to the top of the Cayon Pass, whence we had to descend to the coast of the Pacific. We were now at the height of 4670 feet above the level of the sea, having in the 110 miles between here and the Soda Lake ascended 3554 feet. We were 242 miles distant from the point where we had passed the Great Colorado, and 1798 from Fort Smith. Leaving the stately summits of the San Bernardino on our right, we began to wind down the steep declivity, and at our very first steps another kind of vegetation showed itself from that of the unfruitful plain above.

Trees and shrubs, just bursting into bud, were seen on every spot where their roots could find a little earth for their nourishment. A beautiful green shrub, that covers extensive tracts in California, we saw here for the first time, as well as the magnificent fir (*Abies Douglasii*) which, with its long pendant branches and dark-coloured needle leaves, has a sort of mournful beauty of aspect. We descended lower and lower, till we reached the dry bed of a torrent whose direction we followed. Enormous masses of sandstone conglomerate ([28]) towered up on both sides, and alternated with round hills and mountains, thickly covered with green shrubs.

Towards noon we reached a stream, which rising in the Cayon Pass, forms the San Bernardino Creek, and then hastens towards the Pacific Ocean; and after a few hours' rest, went on through the romantic winding ravine. Towards evening, as we came out upon a small opening, we had the welcome sight of a Mormon coming towards us with a whole cart-load of provisions.

Lieutenant Johns, who had reached their settlement early in the morning, had enabled us to obtain this welcome supply, and the people, though doubtless partly actuated by the desire of gain, had been desirous of affording us help. We instantly made preparations for pitching our camp, and enjoying the good things we so much needed. Tobacco was the first article in demand, for many of us had long had our pipes cold in our pockets, and as the Mormon was himself susceptible to the charms of the weed, he had brought a good stock. He had also a famous provision of flour, which Lieutenant Whipple purchased, and immediately distributed amongst the party; but the trader was strictly enjoined not to sell brandy, as there were many among our men who did not know how to keep within bounds, and in the twofold intoxication of liquor, and the joy of our arrival, might easily have been tempted to excess.

The trader promised to obey the injunction, but there were nevertheless in a short time several drunken men found in the camp, who gave us a great deal of trouble. One of them, and he, my own servant, had to be kept out of mischief, by having his hands tied to the bent-down branch of a tree, so that when it recovered its position, the culprit could only just touch the ground with the tips of his toes, and he was left thus till he had recovered his senses.

The fine dry weather that had so much favoured us during the latter part of our journey changed during this night, and it began to rain so heavily, that our blankets were soon wet through, our fires extinguished, and we ourselves lying shivering and longing for daylight. Daylight came, but no improvement in the weather; the rain still poured down without ceasing, and the small brook that had murmured past our camp became transformed into a wild mountain torrent, that rushed roaring down into its rocky bed.

Continuing our journey on this day was out of the question, and since we could now complete it very well with our Mexican muleteers, and the large party of waggoners and labourers caused much additional daily expense, Lieutenant Whipple paid them off and dismissed them, and he then first learned what kind of fellows he had had in his service. On the journey they had appeared as obedient, hard-working men, but now that they had become their own masters, they allowed their wild passions free course, and a more riotous set than the dismissed members of our Expedition probably never traversed the Cayon Pass. Bill Spaniard, the half-breed, who had been accused of murder, was one of the best behaved of the party. He came up to his former superiors, looking very serious and steady, thanked them for the good treatment he had met with, shook various hands that were extended to him, and then turned and went on his way through rain and storm.

There was another curious fellow — an old man, who had been engaged as waggoner, and who, when I afterwards saw him again on the journey from Pueblo de los Angelos to San Francisco, was wonderfully metamorphosed. He was a Methodist, and said to be a preacher, and he had, according to his own account, taken the opportunity of accompanying the Expedition to California, in order to visit some of his children, who were settled there. During the journey, he never went by any other name in the Expedition, than "the Old Man" (though every day he made a formal declaration that his name was Charrot), and a more modest, unpretending, and humble individual than he appeared then, could hardly be imagined. The more brutal part of his associates often took advantage of these humble ways of his, to put upon him tasks that did not fairly fall to his lot; but nothing could put him out of temper, except, perhaps, the not paying sufficient attention when he began to hold forth concerning the religious views of his sect, and of this offence his rough companions were often enough guilty. He would wish "Good morning" with the most elaborate politeness to every person he met, and his salutation was of course responded to by the decent part of the company with equal civility, but from the rougher sort he frequently got a rude answer.

"Good morning, Mr. Murphy," I heard him say once to one of the rudest of them. "Damn your good morning," was the reply; "what do you mean by good morning in such weather as this?" "Oh!" said the Old Man, "I only just took the liberty to wish you good morning, and ask how you found yourself. Don't be angry with me!"

Afterwards, on the steamer "Frémont," I met again this wonderfully patient old gentleman, and I hardly knew him. He was no longer "the Old Man," but decidedly Mr. Charrot, handsomely dressed in a suit of black, and with no trace at all of the extraordinary humility of deportment that had formerly characterised him.

"Times are changed with me," he said; "I am not now the 'Old Man,' the waggoner, ordered about by everybody; but I show myself, what I am, a gentleman. I think I *played my part* pretty well on the journey; but I am now ready to converse with you on any subject you may please to select,—geology, botany, theology, astronomy, history, or mineralogy! You will not find an ignorant man in me."

It was impossible to resist a smile at the order in which Mr. Charrot narrated his scientific acquirements, and it certainly awakened some doubt of the depth of his learning: but it was now my turn to be humble. "I am sorry," said I, "that my knowledge is not sufficiently extensive to enable me to discuss with you any of the numerous scientific subjects you are so much at home in."

"Oh, you are young yet," replied Mr. Charrot, patronisingly; "but you should not neglect opportunities of instructive conversation,—always take advantage of them when you can." And thereupon Mr. Charrot turned from me with much majesty, and walked to the other end of the boat. Whatever might have been his motive, he certainly had been, as he said, playing a part, and had played it very cleverly.

We made some stay in this narrow pass, since, as in case of the construction of a railroad, three or four miles of it would have to be tunnelled, Lieutenant Whipple thought it would be advisable to examine and compare with it another pass in the valley of Tulare, unless that should have been previously examined by American officers, which Lieutenant Johns had been commissioned to inquire in San Diego. He did so accordingly, and sent us an express stating that the work had been already completed by Lieutenant Williamson, and there was therefore nothing to prevent our departure for Pueblo de los Angelos on the following morning.

It rained incessantly the whole of the 16th of March and the following night, and was still pouring when we were lading the mules with our drenched properties on the 17th. For about two miles we had high mountains on each side of our road, which was constantly declining, and at length the pass opened and formed a small valley through which foamed the Bernardino Creek, swollen by the rains. At the end of the pass the road divided into two, one of which ran westward to the Mormon settlements and San Diego, while the other lay to the north. This we took, and after travelling for some time between wooded hills, we suddenly found ourselves on the border of the magnificent plains that form the coast districts of California.

I cannot describe the impression made on us by the first sight of the fresh green fields and hills, the groups of trees, the scattered farms. Whether from the contrast of the grey wilderness we had lately passed, and the snow storms, still raging in the mountains, it appeared so, or that the verdure of these Californian coast countries really is more beautiful than any other ever seen, I can hardly say, but we certainly thought we had never seen such an exquisite colour.

The sky was cloudy nevertheless, the tops of the neighbouring mountains were wrapped in impenetrable mist, and the rain poured down without ceasing, so that our blankets dripped as they hung from our shoulders; but it could not damp our merriment, and we even liked this mild and fruitful spring rain, and only shook ourselves from time to time and went on our way rejoicing; often stopping to look round us at the rising smoke that pointed out the settlements of the Mormons.

These people have attracted so much attention in recent times that I cannot pass them without mention.* Their capital and their chief settlements are, it is well known, situated in the valley of the Great Salt Lake, midway between the Mississippi and California, and west of the States, where men endeavour by industry and attention to business to accumulate the wealth which on the other side is sought for in the gold diggings. The valleys on the Great Salt Lake lie quite apart from any habitable district. North and south from it there extend seemingly boundless deserts. Eastward the chain of the Rocky Mountains rises like a great wall, whilst to the west barren ranges of hills and sand steppes form a scarcely less impregnable barrier. This Mormon country, also called the Great Basin, because the water does not flow off from that region, is a highland tract, 4000 feet above the level of the sea, between the Sierra Nevada and the Wahsatch mountain chain. It consists, in fact, of a desert waste about 500 miles broad, with some fertile strips at the foot of the heights, and is intersected by ranges of hills two or three thousand feet high, and running mostly parallel with the Rocky Mountains. In the eastern part of this district, the Mormons have established themselves, and they have not been attracted by any special natural advantages, for good water is very scarce, wood is almost wholly wanting, and good pastures are only to be found on the declivities of the hills, and in a few hollows. But the valleys of the rivers are very fruitful, and it is likely that the country will not receive for some time as many inhabitants as it could maintain.

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* In this brief notice of the Mormons I have compared the information I myself obtained from them during my stay on the Upper Missouri, in 1852, with the reports of Captain Howard Stanley and of the unfortunate Captain Gunnison, of about the same date. I have purposely avoided speaking of the late political occurrences on the Salt Lake, on account of the many conflicting and contradictory reports, and the difficulty of getting as yet at the truth. One thing, however, is clear, namely, that the government of the United States has treated this peculiar sect with great liberality and indulgence.

The faith of this sect, for the diffusion of which over the world they make such immense exertions and sacrifices, is founded on the conviction that Christians are walking on paths that will not lead them to Heaven, the true road to which can only be found by the followers of the "Priesthood of Melchisedek." According to the Mormons this priesthood was removed from the earth 1800 years ago, since which no true religion has existed, until in the year 1826 an angel appeared to Joseph Smith, the founder of Mormonism, instructed him in the truth, and led him to a spot where a stone chest lay buried. In this stone chest lay certain golden tablets, on which laws were written in the "reformed Egyptian language," and the angel took a number of them out of the chest and gave them to Joseph Smith, conferring on him at the same time the power of reading and understanding what was engraved on them. These miraculous writings Joseph Smith translated and published under the title of the "Book of Mormon." He was then divinely consecrated to be a priest "after the order of Melchisedek," and received the gift of understanding all languages; and he and his companions were appointed as Apostles to preach among the nations of the earth "the Church of Jesus Christ of the Latter Day Saints."

This church was first organised in 1830, and consisted of six members; but in a short time their disciples and followers amounted to many thousands. The Mormons declare that the Bible of the Protestants is of divine origin, but that it has been so much changed and corrupted that a new translation has become necessary, and this their prophet undertook to make. Of the Book of Mormon they say it comes from God, and is equally a standard of faith with the older Scriptures. They believe strictly in miracles, and that the elders of their church have the power of curing diseases by "laying on of hands." Their form of worship does not differ greatly from that of other Protestants, for they have preaching and singing, and instrumental music for the accompaniments, and at the beginning and end of the service.

Their domestic arrangements, as is well known, differ most widely from those of other Christians, especially from the effects of what is denominated the "spiritual wife system." When they were driven from Illinois, the accusation of polygamy, which formed one of the principal charges against them, was denied by them; but it has been long since proved true, and is now no longer made a mystery. The preachers themselves, indeed, declare publicly from their pulpits, that they are at liberty to take a thousand wives if they like, and defy any one to prove the contrary out of the Bible. Joseph Smith's views upon this question were never exactly published, but he made his disciples acquainted with them, and declared that they might, like David, Solomon, and Jacob, take as many wives as they were able to maintain, in order to establish a holy house for the service of the Lord. In the Book of Mormon it is said, that "every man shall have one wife, and every woman only one husband;" and the Mormons point attention to the fact, that this word "only" occurs but in the second clause of the sentence, and infer from that, that polygamy is not only allowable, but pure and holy. They even dare to assert that Jesus Christ had three wives, namely, Mary, Martha, and the other Mary whom he loved, and that he espoused them all at the Marriage of Cana. When a Mormon already married wishes to take a second helpmate, he must not only come to an understanding with the girl and her parents, but obtain the permission of the governor; and the woman is then solemnly sealed to him, and stands thenceforward in exactly the same position as the first wife, as do all the subsequent matrimonial partners. The Mormons declare that they regard such alliances as virtuous and honourable, and make no distinction in their society between the first wife and the multifarious sharers in her privileges. They even assert that these so-called marriages are more binding than those of other sects and religions, as they extend to the future life, as well as to the present. It is one of their doctrines that no single man or woman can attain to the joys of heaven, and that the degree of felicity to which a man will attain will be proportioned to the number of wives that have belonged to him on earth; but no sensual thought is to form the motive of these unions. They are to be contracted solely with a view to "raising up a holy generation to establish the kingdom of God upon earth."

Since the governor or president of the church is alone authorised to permit and dissolve marriages, it may be imagined what power arises to him from this source alone, but very dexterous management is often required in one who is at the same time the ecclesiastical and political head of the community, and the private and confidential adviser of families. Every unmarried woman too, who finds herself neglected or passed by, has a right to demand of the governor, that he shall find her a husband "for the good of her soul," and the governor must one way or other comply with the request; he may even compel any man whom he may fix upon as suitable to accept the lady, and marry her "to save her soul," as aforesaid. It might be supposed that a household consisting of — say only thirty wives (without mentioning children), would not be precisely the abode of domestic peace; but it is asserted that quite a sisterly affection prevails amongst these ladies, though it can hardly be supposed to be altogether agreeable to the feelings of the one who has once been alone in her glory, to find herself reduced to be the two-and-thirtieth partner in the matrimonial association, and hear continually of another and another "sealing" operation. The zeal of the Mormons for the propagation of their doctrine has induced them to send crowds of missionaries abroad; converts to the new religion are constantly pouring in towards the Salt Lake, where "the spring of truth flows from the lips of the prophet of God," and a considerable and increasing fund has been set aside for the purpose of assisting convert emigrants to reach the settlement; though how long it will remain the asylum of the Mormons seems uncertain; for, besides the many other disadvantages of the Utah Territory, it is exposed to the plague of locusts.

The history of Mormonism may be related in a few words. The site for the New Jerusalem was chosen, and the town of Zion founded, in the State of Missouri, under the guidance of Joseph Smith, in 1831-2, and here, on the extreme frontiers of civilisation, his followers hoped to live undisturbed, and even to convert the few settlers in the neighbourhood. Two years they passed there in peace, but then the population of Jackson County rose and drove them out. They endeavoured to find an asylum in Clay County, but were driven away again, and as their numbers were nevertheless increasing every day, they were soon strong enough for resistance, and when they were again expelled, it was not without a serious struggle; they then betook themselves to Illinois, and found on the banks of the Mississippi a temporary refuge; they built the town of Nauvoo, and a magnificent temple, but with their doctrines and practices they could not long remain at peace with their neighbours, and the fact of their polygamy becoming known, gave occasion to new hostilities. Crimes of every kind, from theft to murder, were, justly or not, laid to their charge, and the final result was that the "prophet" Joseph and his brother Hiram were shot, and Nauvoo burnt to the ground. Brigham Young was then chosen by the Mormons as their governor, and under his guidance they passed to the Upper Missouri, twenty miles above the mouth of the Platte River, where they settled once more, and at the same time sent out their best hunters to explore the country in all directions. In the year 1847, about a hundred and forty of their men took their way from the Missouri towards the west, and the whole community followed them by degrees in small parties, and after a most toilsome journey reached the Great Salt Lake, where they determined to establish their state. The land was then "consecrated," the plan for a city drawn up, and though they had suffered much from disease and famine, a prosperous settlement soon arose under their hands, and this so much the more rapidly, as thousands of converts followed them, and helped to establish the community, over which Brigham Young has since reigned, under the name of governor of the Utah Territory.

To lighten the difficulties of the journey to the Salt Lake for their converts and disciples, the Mormons have established some small settlements on the San Bernardino River, and instead of traversing the weary way through the prairies, and the Rocky Mountains, emigrants may now reach Utah by Panama and San Diego, whence they have only a short way to travel to join their fellow believers at San Bernardino, who will afford them advice and assistance for their further journey to the Salt Lake. The Mormons thus maintain a connection with foreign countries, while they regulate the civil and political relations of their community; legislate for themselves in conformity with their own views, establish schools and universities, and factories of every kind; carry on agriculture and cattle-breeding on a grand scale; and endeavour to render themselves independent of intercourse with all other nations, although they call themselves Americans, and acknowledge the government of Washington. Their form of government is that of a republic with a free and liberal constitution; but their criminal code is modified by their peculiar position and extraordinary doctrines.

CHAP. XIX.

THE CALIFORNIAN RANCHEROS. — SKILL OF CALIFORNIAN HORSEMEN. — CAMP ON SAN GABRIEL CREEK. — MISSION OF SAN GABRIEL. — MISSIONARIES IN CALIFORNIA. — ARRIVAL OF THE EXPEDITION AT PUEBLO DE LOS ANGELOS. — SALE OF MULES AND TRAVELLING EQUIPMENTS. — ADVENTURE ON THE WAY TO THE PORT OF SAN PEDRO. — ARRIVAL AT THE PACIFIC.

PURSUING our way along the San Bernardino valley, we determined to pass the night near a white building that we could see gleaming through the thick falling rain from a slight elevation in the plain. Our progress was often arrested by brooks that rush down like wild foaming torrents from the mountains to the Pacific, and that with such fury, that our mules, as they waded through them, could scarcely resist the force of the current, and had much trouble in gaining the opposite bank. As we passed mile after mile, magnificent herds of cattle began to make their appearance on both sides of the way, bearing witness to the opulence of the inhabitants, and pleasantly enlivening the green landscape. Before reaching the white building on the hill, we came to a vineyard, and soon afterwards to some low cottages. As we were separated from the hill by a swollen stream, we thought we would make a halt by the first buildings we came to, but our hopes of obtaining shelter under a hospitable roof were grievously disappointed, partly from the very dirty aspect of the aforesaid habitations, which made us disinclined to enter them, and partly from the inhospitable temper of the inhabitants, which made them disinclined to ask us. In this country of exuberant prosperity the circumstance was surprising, but it was afterwards in some measure explained. The vineyard, it appeared, belonged to a Californian, living at a great distance off, who had placed these people here to look after it. They were evidently very poor, and lived in rude log huts, and a few others, not much larger than hay-cocks, were occupied by Indians, who called themselves Kavias, and were little insignificant-looking fellows, who in their scanty ragged clothing appeared the very picture of misery. They stand much in the position of serfs, and are bound, for the consideration of a small quantity of bad food, to labour in the vineyard, and perform any other work for the proprietor. We made our somewhat uncomfortable couches on very damp ground, and without the solace of a good fire; for the Indians had hardly left a stick of dry wood in the vicinity. Had it not been for some withered branches and twigs brought down by the mountain torrent, we should scarcely have been able to cook our supper. It had left off raining, however, and the next morning, though still cloudy, was fine enough to enable us to dry our wet blankets and other properties, and though it took us the whole day to do this, we had the next night the benefit of a perfectly dry comfortable bed. Leroux had informed us that not far from here there dwelt a certain Senorita who had long been the object of his especial veneration, and that he intended to pay her a visit to see whether she was looking much older; and he accordingly rode off, promising to return on the following day. He kept his word, for when we had gone but a few miles, he came galloping over the meadows to us, looking very jolly, and declaring that he could not be much altered, for the lady had known him at the first glance. These old hunters and trappers of the west, though they may have journeyed thousands of miles over the desert, whenever they come to a settlement, no matter under what latitude or longitude, are pretty sure to meet with an acquaintance, with whom they indulge in an hour or two's gossip, and then bid them farewell, probably for ever, with perfect equanimity.

The white summits of the neighbouring mountains were hidden in mist, but a bright sun shone over the grassy plains; the herds of cattle, wandering over or reposing on the velvet turf, became more and more numerous, and in the distance we could distinguish, surrounded by trees, the farms of the free Californian settlers.

We saw very few people; only from time to time came galloping up, a rider mounted on a fine-spirited horse, who, having observed our procession from a distance, wished to gratify his curiosity by a nearer view, and we scarcely knew whether to admire most the superb steed, or the handsome, bearded cavalier, on whose features the Andalusian type was not to be mistaken, and who sat so gracefully on the heavy but convenient Spanish saddle. Their dress and equipment indicated something more than opulence; and the consciousness of complete independence was visible in every feature.

Since California has become a gold country, the property of the Rancheros (cattle-breeding and agricultural landowners), has increased immensely in value; and as they often own tracts of many square miles in extent, the wealth of many of them is becoming enormous. In San Francisco they find a ready market for their almost countless herds, of which, in former days, the skins only had any value. At that time the few ships that entered their ports took only hides in exchange for whatever they brought; and any one who happened to be in want of beef, was at liberty to kill as many oxen as he liked, provided he carried the hides to the owner. Now the case is altered, and a traveller who should venture to help himself to a sirloin, would be likely pretty soon to see the muzzle of a pistol, or the blade of a bowie-knife, as well as an invitation to pay a very good price for the beast he had slain. As no kind of fence separates one herd of cattle from another, it might be supposed that their mingling indiscriminately together would give occasion to many disputes; but every animal is marked with the brand of its owner, and several times a year the ranchero sends out arrieros, or mounted men, provided with lassos, to look over his herds, and brand the new members with their master's mark. The skill of these men in riding and throwing the lasso is quite wonderful; and two of them will capture the wildest horse, or the most furious bull. They are well-mounted on horses specially trained for this service, and one of them rides forward on the right side of the animal, about twenty or thirty feet off, while the other keeps a little behind, at about the same distance on the left side, and at the moment when the right hand horseman flings his lasso over the head of the beast to be captured, the one on the left casts his round the left hind foot, so that the victim is soon brought down. The lassos are then fastened to the saddle-bow, the saddles being so constructed that they cannot be dragged on one side, and the horse, who knows well what he is about, stands like a wall, throwing himself with his whole strength to one side, so that the line remains tightly stretched, and the riders can dismount, and go to the fettered animal, and do what they please with him. I have often been astonished at the confidence and exactness with which these men will lasso a wild horse in full career; but they practise the art from their childhood. You may see the little Californian boys catching fowls with a lasso, in the poultry yards, and when several of the men are together, they will not hesitate to attack with this weapon the gigantic mountain bear of their country. Line after line is thrown over the fierce enemy, and no sooner does he raise one of his clumsy paws, than it is caught in a loop and made fast. When he comes to his senses he finds himself tied into a hard knot, and thrown on a cart, either to be sold to a connoisseur in such articles, or kept to fight a wild bull, for that brutal sport is quite in the order of the day in California, and very profitable to the undertakers, especially as the bear's meat is not supposed to be injured by the process, and sells for a high price when the bear is killed.

We rested for some hours at mid-day, and much enjoyed the meal, which we ate on the sunny side of a green hill, and then continued our journey. The scattered habitations and connected villages now became more frequently visible in the distance, and the flowery meadows, dotted over with cattle, were but seldom interrupted by close fields of cacti, through which the wolf and the lynx made their way where no man would follow them. We travelled on this day till long after sunset, and stopped at a little river, the San Gabriel, which we had to cross. There were some houses close to the road, but the occupants appeared to have gone to bed, and not to trouble themselves about our presence. Some passing travellers had told us that we should reach the goal of our long journey on the following day, and it may easily be understood that a joyous excitement took possession of us that was not favourable to sleep, and we could scarcely wait for the dawn of the following day.

The most lovely spring weather favoured us on the last day of our journey. We crossed the river in all haste, and found ourselves then, and for some miles further, amongst farms, gardens, and cultivated fields. At the end of the settlement there lay before us again a green plain, bounded on the west, about four miles off, by a long range of hills, and we passed in a straight line across it, leaving the mission of San Gabriel on our right.

This is a very extensive white building, and the numerous windows, and well-laid-out gardens, and smaller attached buildings, suggest the former opulence of the missionaries. It is finely and advantageously situated in a fertile valley, watered by numerous springs, and where the declivities of the neighbouring mountains offer an inexhaustible supply of wood; and it is thus easy to see how the mission of San Gabriel should have been so prosperous. According to authentic accounts, 50,000 head of cattle were marked with the brand of the mission, and 3000 casks of wine, and 250,000 bushels of corn, produced there in one year. The missionaries also had a brigantine built in the neighbouring forest, and carried bit by bit to the port of San Pedro, where it was put together and launched.

Five thousand Indians were retained in the service of the mission, and settled near it; and they behaved well and were clothed and fed by the Fathers, and maintained in as much happiness as they were capable of, forming large families, of which the missionaries were the social, religious, and political heads. In this way, even a race standing so low as the aborigines of California, were enabled to take the first steps towards civilisation; they became accustomed to the mode of life of the whites, they formed marriages under the sanction of the church; the young girls when they had reached a certain age being separated from the rest of the population, instructed in feminine employments, and returning to mingle with the community only as married women. If we compare the Indians of that time with the present degraded, brandy-drinking, wretched creatures, maintaining themselves, in a great measure, by theft, and keeping their women in a state of slavery, it is impossible not to wish that the missions were flourishing once more, or to see, without regret, the fallen roofs and crumbling walls of their abode, a mere corner of which now serves as a shelter for a few Catholic priests.

These missions of California, the first of which was founded about the middle of the last century, and whose number down to the year 1800 amounted to sixteen, were at the height of their prosperity only for about thirty years. The whole former period had been a perpetual struggle against the circumstances of the country, and the low mental condition of the natives; although, by degrees, as the older missions increased in extent, comfort and plenty began to appear within their walls, and to be diffused over the surrounding country. The energetic exertions and heroic sacrifices of such missionaries as the Padres Kino, Salvatierra, and Ugarte, obtained their reward; and, up to 1833, when three new missions had been founded, they enjoyed the fruits of their labours. Each mission formed, at that time, a little state in itself, ruled strictly, but peacefully, by the Fathers, who had certainly reduced the wild inhabitants of the country to be their subjects, but allowed them to share in the blessings which their labour procured, and by a wise administration of the resources at their disposal, inevitably accumulated wealth. That a considerable amount of comfort and luxury found its way into the missions was the merely natural result of their fortunate position; but no wanderer ever crossed their threshold who was not received and entertained with the utmost hospitality, and allowed, on taking his departure, to exchange his wearied horse for a fresh one from their pastures. With such conduct, the influence of the missionaries could not but increase, and it was not in the least surprising that the whole trade of the country with other nations gradually passed into their hands, or that their wealth and authority should be continually augmenting.

The first great blow was given to the missions of California in 1833, when the government of Mexico, jealous of the great influence of the clergy, secularised the missions and confiscated their property to the state. The Fathers lost at one stroke their temporal power, their administrative authority, and their extensive possessions, and retained only the right of performing their strictly clerical duties, for which they were to be paid by the government. In this way, however, the prosperity of the missions soon came to an end—the missionaries, having lost the authority to carry out any arrangements they might make, troubled themselves little more with the management of their affairs. The Indians, no longer subjected to the strict discipline, or animated by the encouragement of their patient teachers, relapsed into their old habits of idleness and the faults resulting from it, and they now form the lowest class of the inhabitants of California, some attached as slothful serfs to the rancheros, others infesting the mountains as robbers. When California became attached to the United States, the former property of the missions of course passed into the hands of the American government, and their dwellings are now lonely and desolate and falling rapidly to decay; the roofs have fallen in, the stalls are empty, the once blooming gardens and orchards are choked by a wild growth of weeds; and it will probably not be long before the waves of commercial activity will sweep over them and obliterate the last traces of their existence.

Before reaching the chain of hills towards which our way led, we came to a spacious lake, on the banks of which some emigrants appeared to have settled; but instead of the log-houses of the more woody regions, they inhabited white tents, and their gardens were fenced in and protected from the incursions of cattle by long strips of sail-cloth. Westward of the hills a wide green plain again stretched out before us, but it was now no longer bounded by hills and mountains. The road was firm and good, and the increasing number of passengers we met left no doubt that we were approaching the town, though we could not in any direction see any other signs of it. Towards noon, however, there was a sudden slope downwards in the ground, and all at once the beautifully situated town of Pueblo de los Angelos lay before us.

A loud hurrah burst from the whole Expedition at the sight, and on the brow of the eminence whence the whole country was displayed to our delighted eyes like a beautiful picture, we made our bivouac for the last time on this journey. Many of our party, on looking down towards the busy city, and seeing symptoms of advanced civilisation, began now to be troubled with the thoughts of what kind of a figure they might cut in the streets, and to contemplate rather bashfully the equipments of their outward man. Eleven months of uninterrupted travelling through the wilderness had reduced most of the garments indicative of civilisation to such a state of decay that they either hung in rags or had had their deficiencies supplied by patches of leather blackened by the smoke of many a camp fire. The same useful material wrapped round the feet supplied the place of boots, a distinction of which few indeed could boast even in the most attenuated forn, and our round felt hats had assumed every conceivable fantastic shape, and seemed to adhere to the tangled hair, which in many cases hung down on the shoulders. But though conscious that our costume and personal appearance might have admitted of some improvement, we were not without a certain feeling of pride in the evidence of our long and toilsome journey, afforded by the aspect of our brown and long-bearded company, and their meagre, tired cattle. Our weapons, too, were in first-rate condition, and our rifles, revolvers, and broad knives glittered as if they had just come out of the arsenal, from which an observer might have inferred that they had been of some importance to us on the journey.

On the 20th of March, immediately after our arrival, Lieutenant Whipple went down into the town to put himself in communication with the authorities of the place, obtain information and make the necessary arrangements for our further journey from Pueblos de los Angelos. A steamer, it appeared, came every week to the port of San Pedro, twenty-five miles off, and kept up a regular communication between that place and San Diego and San Francisco, touching on the principal points of the coast by the way. On the 24th of March one of these steamers was expected in San Pedro, and as it only staid a few hours, it was necessary for us to make great haste with the sale of our mules if we meant to reach San Francisco by this opportunity. It was therefore made known immediately in the town and its environs that on the 23rd of March we meant to hold an auction of our entire stock of mules and their accoutrements, as well as of various other properties that we could not carry with us, and we employed ourselves in the interim chiefly in arranging and packing our papers and collections, though some time was devoted to the repair and beautification of our exterior, and a little, too, to the solace of the inward man with the creature comforts of the hotel, to which we thought ourselves entitled after the long period of comparative privation.

The town of Los Angelos is surrounded by a country that for fertility could not easily be excelled; the population varies between two and three thousand, according to the number of persons stopping there in unfavourable times of year, in their passage to or from the gold districts. In the well-cultivated valley of the little river of Los Angelos, on which the town lies, there are seen numerous *haciendas* and *ranchos*, surrounded by vineyards and orchards, which give a very pretty appearance to the country. The wine is made in the simplest and rudest manner, but its flavour is such, nevertheless, as to show that it would be an admirable wine under proper treatment. The town of Los Angelos, which has a more American than Mexican character, has lost much of its importance since the discovery of the gold-fields of California, but for us weary wayfarers from the wilderness it seemed a perfect Eldorado, though the appearance of its dirty streets and houses afforded convincing proof that its inhabitants did not spend much on them. The arrival of our Expedition, and the project of making the railway terminus in Los Angelos, seemed extremely welcome to the inhabitants; but still more the circumstance that we required a completely new equipment, and would have to sell our travelling furniture and utensils at any price we could get for them.

On the 23rd, at a very early hour, our mules and other effects were sent into town (our last sheep had been long since eaten up), and a tolerably numerous assembly of men of various nations was brought together to bid, a man having been engaged to act as auctioneer, who could praise the goods in Spanish and English. I stood a long time looking on at the busy scene, and seeing the faithful companions, who had carried us safely so far, "knocked down" in lots of twos and threes. They were not in a condition to tempt purchasers much by their appearance, but they sold for very good prices; for the buyers reasoned very correctly that they could not be worthless animals if they had brought us all the way from the Arkansas, and that the weak ones had probably perished on the route.

Among the bidders were, besides Leroux and some of the Mexican muleteers, two of the American members of our Expedition, Messrs. Sherburne and White, on whom the sight of this beautiful verdant country had made such an impression that they had determined to settle there, and renounce their previous intention of returning with us to Washington. Like true Americans, they made very light of the inconveniences and difficulties they would have to struggle with in commencing as *rancheros*, in a country new to them, and thought only of the results to be obtained by the energetic pursuance of their plans. They not only bought mules, therefore, and articles necessarily accompanying them, but also the only tent that remained to us, and various cooking utensils, with which they meant to begin their housekeeping. Mr. Leroux, like a genuine trapper, resisted all our invitations to make the sea voyage with us. "No, no!" he said, "as long as I keep upon land I know what I am about, but I know nothing of water;" and intending to return with the Mexicans the way he had come, he bought many of the mules, partly to use on his journey, and partly as a mercantile speculation.

By noon we possessed nothing more than our well-packed collections, instruments, and journals: but these contained all the results of our labours.

Just as the last mule was sold and the last Mexican dismissed, news came that the screw steamer expected at San Pedro would be there early in the morning, instead of in the evening as had been supposed, and we could not afford to lose a moment. We procured a cart immediately at the post-office, packed into it all our remaining effects, and sent it forward without delay to San Pedro; though on account of various trifling hindrances we could not follow till towards evening.

We assembled for the last time in the little coffee-room near the post-office: the whole party was there with the exception of the officers, who had gone to San Diego, and our good old Dr. Bigelow, who, being a zealous Catholic, could not prevail on himself to leave Los Angelos without paying a visit to the mission of San Gabriel, eight miles off. He had gone there on the 22nd, under the guidance only of a little Mexican boy, and the messenger despatched to inform him of the speedy departure of the boat would be probably too late, so that we had to make up our minds to travel to San Francisco without him.

With the joy of our return was mingled some feeling of melancholy, as we clinked our glasses for the last time with the companions we were leaving behind, and wished them success in their undertaking. The parting was painful to them, for when we were gone they would not have a single friend near to take an interest in their welfare; but the enterprising spirit of the Americans, and their incessant brooding over the question how to obtain an independent, or more than an independent position in society, allows little room for feelings of this kind, and it seems to them, as it is in fact, a mere matter of course, that when men have to follow various vocations they cannot always remain together. Mr. Leroux shook hands with us all with hearty good wishes, but like a man accustomed to find acquaintances on every steppe, to remain with them awhile, share all hardships and privations like brothers, and then say good bye for ever.

The great post coach, capable of containing us all, and drawn by four strong Californian horses, at length drew up to the door, and our viameter was fastened to the hind wheel, to perform its last service in informing us of the exact distance between Pueblo de los Angelos and the sea-port of San Pedro, said to be twenty-five miles distant. The evening was coming on as we got into the coach, so that we had to reckon on being half the night on the road, and we saw little of the country through which we were passing, except that there were in it many small lakes covered with innumerable water-fowl, on the banks of which the long-legged marsh birds stood in close ranks. The night came on as black as pitch, and it began to rain, so that we could hardly keep ourselves dry in the badly closed carriage. As long as the road remained good the horses dragged on their heavy load pretty briskly; but we soon found that the worst part of the journey was to come. The coach began to jolt and slip about in a way that suggested its getting off the road; but to our inquiries the coachman answered with perfect confidence that he had travelled that road too often to make any mistake, and that his losing his way was out of the question. We comforted ourselves with this assurance, especially as in this impenetrable darkness our doubts and inquiries could answer no possible purpose; and the horses dragged on again slowly through the deep mud, but the time seemed very long, and we began to get a little out of humour and left off talking, until our silence was broken by the sudden stoppage of our vehicle. "I've got out of the road," said the driver, "but I know very well where I am; and I must go over that hill to get into the right track again." We looked out, but we could see neither hill nor anything else, not even the horses, in the thick darkness. All that we could distinguish was a faint light glimmering at a distance. "You must all get out," said our worthy coachman, "if the horses are to drag the carriage over that hill; and if not, we must stop here all night. Do you go straight on to where you see that light, and then ask the people in that house to tell you the way you must go to get to the road again. I'll make them hear me by calling and cracking the whip. You can stop a bit in the house if you like, for I must go a long way round to come up with you again;" and with these words he drove his horses on, and left us standing where we had got out in obedience to his behests.

"Take care you don't tumble into any of the water-holes," he called out as he went, "they lie right in your way; and mind that Señor's dogs don't fly at you." What were we to do now? There we were ankle deep in mud, a circumstance that took away any inclination we might have had to follow the carriage; and in the direction of the light there were, as we were informed, abysses yawning to receive us. This was the only risk that caused us much apprehension; as for the dogs, we had our revolvers in readiness. We made our way, however, towards the light, and whether we were particularly fortunate, or that the coachman had only been indulging a facetious humour in the warnings he had given us, we had no perils either of dogs or water-holes to encounter; nothing more formidable than the pouring rain and the mud in which we almost stuck fast. How did we all sigh for our good sure-footed mules. We remembered the first part of our journey after leaving Fort Smith, when we had been caught in a tempest and thoroughly drenched, but we had had no more disagreeable adventure than this on our whole journey.

We bewailed our sad fate most especially on account of the new clothes we had bought in Los Angelos, and above all of those elegant kid gloves on which we had so much prided ourselves; now we should, after all, have to go on board the steamer wet and dirty. At last we reached the house, opened the door behind which the light was burning, and found ourselves in a kind of hall, in the presence of two men, who did not appear at all gratified by our late visit. Possibly they took us for robbers; but to treat us as such on account of the disturbance we had occasioned was not advisable, as we were too many. We informed them who we were, and what had brought us there, but did not effect the smallest change for the better in their sulky physiognomies; all we could obtain from them was, that on our request to be told our way, one of them desired a negro to go with us with a lantern and show us back to the road.

We did not feel particularly comfortable when we got into our coach again, with our soaked clothes and shoes; but to our great joy the road was better; we went on at a pretty brisk pace, and at a late hour in the night stopped at last before a feebly-lighted building. "San Pedro, gentlemen," exclaimed the driver; at which cry we sprang from our seats and scrambled out. The darkness of the night was still intense, but faint rays of light gleamed from some windows and from an open door, and we heard, not far off, a strange rushing, roaring sound. We listened: it was the surf, breaking in measured thunder, wave after wave, upon the beach. We were at the goal of our wanderings, and had reached the Pacific Ocean.

With some trouble we got possession of a lantern, by the light of which we detached the viameter, which, strange to say, had not been lost, and then betook ourselves to the nearest house, from the doors of which issued a buzz of many voices. We entered a spacious apartment, the greater part of which was occupied by long tables covered with the remains of various repasts, and groups of men, amongst whom we recognised some of our own dismissed workmen, standing or sitting, or in some cases lying stretched out on the benches, snoring loudly in real or pretended sleep. We found room to sit down at one of the tables, however, and after a great deal of calling and ordering managed to get a very frugal meal brought to us. The place and the company were not of the most agreeable; but we enjoyed our supper greatly nevertheless, and then looked out for some unoccupied space on which we might stretch ourselves for the remainder of the night. Only two of our party attained to the distinction of a kind of bed, and the rest of us thought ourselves fortunate if we could find a corner where stretched on chairs, a bench, or the ground, we might get some share of the warmth diffused by the stove. We had neither coverings nor anything to put under our heads; and altogether we had to give up all thoughts of sleep, and merely lay down, like most of the passengers, and waited, patiently or impatiently, for break of day.

CHAP. XX.

THE STEAMER "FRÉMONT."—PASSAGE TO SAN FRANCISCO.—GOLDEN GATE.—CAPTAIN SUTTER.—THE HARBOUR OF SAN FRANCISCO.—THE TOWN OF SAN FRANCISCO AND THE MODE OF LIFE THERE.—MARKET.—HOUSES.—GAMING-HOUSES.—THE CHINESE.—THE GOLD MINES.

Our task might now be considered as completed; for all we had to do was to get by the shortest way we could to Washington, and there work up the notes made on the journey, and place Lieutenant Whipple in a position to draw up a complete report to be laid before Congress, along with his opinion on the route we had investigated. At San Pedro we found ourselves in 33° 43′ N. L. and 118° 16′ W. Lon. from Greenwich, having travelled in the whole journey 1892 miles, a distance that in a straight line would have been 1360. We had a much greater number of miles to traverse to reach Washington; but we were to fly on the wings of steam along the coast of California to the capital of the West, and then, after touching on some important points of the Pacific coast, cross the Isthmus of Panama, and proceed by the Gulf of Mexico, and along the eastern coast to New York, the eastern metropolis of the North American continent.

With our arrival on the coast of the Pacific our field work was completed, and my official journal closes on the day on which we entered San Pedro; but I cannot refrain from endeavouring to recal some of the scenes of that homeward journey, which, now that we had finished our work, was like a prolonged holiday to us.

Early on the morning of the 24th of March a large party was assembled on the beach at San Pedro, gazing alternately at the tumbling waves and at a distant speck, which, as they were informed, was the steamer "Frémont," for which they were waiting.

The harbour of San Pedro scarcely deserves the name, for it is a mere open bay, twelve or fifteen miles across, between the two points that extend farthest into the sea, so that ships anchoring in it are only protected from the east and north winds, and during storms from the south they have to seek a refuge behind the island of Catilina, twelve miles off. There are but two buildings, which serve at once as hotels, warehouses, and dwellings; and vessels seldom stop here for any other purpose than to provide themselves with fresh water and beef, which can be obtained at a more reasonable rate than in the other more frequently visited ports.

The "Frémont," a screw steamer, came to anchor a quarter of a mile from the shore, and immediately sent off its boats to take our luggage on board. While we were still busy shipping it, we perceived two horsemen coming galloping along from the direction of Los Angelos, and evidently intending to reach the place of embarkation before the departure of the steamer; and to our great joy, we soon recognised in one of them our dear old Dr. Bigelow, who had set off instantly with a guide, on receipt of our message, and by riding hard all night, had managed to come up with us.

The shipment of our party and their effects took nearly an hour and a-half, after which the "Frémont" steamer weighed anchor and steered towards the north. We had the land constantly in sight, and those who were not sea-sick had a good opportunity of viewing from the deck the coast of California, which appeared sometimes green and hilly, and sometimes rose in naked rocks sheer out of the sea. We were three days on this first passage, and touched in the course of it only on the town of Monterey, where we took in some passengers, as well as fresh meat and fish.

Monterey is pleasantly situated on the slope of a gentle hill, behind which rises the range of coast mountains. The harbour is completely open towards the north-west, so that vessels have no protection in a storm from that quarter, but on the south-west they are sheltered by the projecting Point Pinos. We could see in the town strong and spacious houses built of adobes; these are of two stories, and probably date from a former period; the new buildings are merely of wood, but being whitewashed give the place a pleasant look. Apart from the town, towards the east, lies an old church much decayed near a small lake, which was formerly connected with the sea, but is now cut off from it by the increase of a sand-bank. The old *presidio*, which has rather a commanding position, is garrisoned at present by American troops.

The steamer made no longer stay than was necessary for business, and then went on again towards the north. Among the passengers who came on board was one who afforded an example of the unlucky accidents to which settlers in California are often exposed. He was a young man, and had his head bound up with a cloth, evidently on account of a wound. Dr. Bigelow, who always took the strongest interest in anything that fell within his department, managed to get into conversation with him, to hear the story of this terrible wound, and what was more, to get him to show it. It appeared it had been given a fortnight ago through an unfortunate misunderstanding of one of his comrades, and it was perfectly marvellous that it did not kill him on the spot. A pistol ball had entered under the right ear, and passed out again at the left eye, but he had only remained in bed a few days on account of it, and was now on his way back to San Francisco, to pursue, with his companions, their old occupation of cattle-dealing. On the morning when the accident happened, he had left the place where he had passed the night, not far from Monterey, and had set off with two comrades to drive a herd of oxen at a very early hour, while the twilight was still too dim for them to be able to see well what they were about. Suddenly a loud noise and confusion arose among the herd on one side, and the drivers in the rear several times called to the one who was riding in advance, but received no answer. Whether from the changes occasioned in the appearance of objects by this uncertain light, or that his excited fancy suggested the delusion, one of them believed he saw before him a mountain bear attacking the herd, and without a moment's consideration, snatched his revolver from his girdle, took aim, and fired. At the loud cry uttered by his comrade he rushed towards the spot, and found the unfortunate man weltering in his blood. He must have received speedy and efficient help, or he could not have outlived such a terrific wound, which, as it was, only deprived him of his eye.

On the 27th of March we found ourselves approaching the harbour of San Francisco, and even before we could distinguish the mighty masses of rocks between which we had to pass into the spacious basin, we could perceive the vicinity of the great world city by the crowd of sails that covered the ocean in all directions. We were sailing at no great distance from the land, and lofty rocks rose like towers out of the sea; but, according to the sailors, the only danger here is from invisible rocks close in-shore, so that the steamer ran quite near those that were in sight without altering her course. A curious spectacle was exhibited to us on these rocky islands, as they were thickly covered with sea-cows, sea-lions, and seals of various species, who gazed with curious eyes at the floating disturber of their peace, as it went panting by. A shot fired by one of the passengers, however, created a terrible commotion among the masses of flesh and fat that were lying so quiet before, and the clumsy brutes, exerting all their energies, went tumbling over one another towards an overhanging point of rock, whence they plunged headlong into the sea, and were seen no more. There was something inexpressibly comic in the awkward movements of the frightened company, the members of which were of all sizes, from that of a small dog to that of an ox, and the way in which they floundered into the water, making a mighty splash, sending up the white foam to a great height; and though the same spectacle was frequently repeated before we got into the harbour, we were every time equally amused by it. Our attention was also attracted in another direction by some gigantic fish that were sportively popping their ugly heads above the water and then diving down again, while tens of thousands of birds of the most various species brooded on the surface of the water, or rose screaming into the air, wheeling about in noisy circles and filling the sky with their clamour; and all this manifold throng of wild animal life, in the air, on the waves and in the abysses below them, was seen but a few miles from the great, populous, busy city of San Francisco.

The whole earth with its ever-varied surface, and all that it contains, was doubtless made for the use and enjoyment of man, but we do sometimes come upon spots which nature seems to have specially adorned and endowed with the view of tempting him to make his abode there. The thought naturally suggests itself as you pass between the stately rocky portals along the broad secure channel bearing the name of the Golden Gate, and entering the wide beautiful basin that forms the harbour of San Francisco, perceive on the far extending semicircular shores the indications of active, prosperous life, and marvellously rapid growth and culture. Where ten years ago the rude hunter of the west was setting his traps for the otter, and chasing the elk and the grey bear, are now rising great cities, in which may be found the products of the civilisation of every country on the globe.

Almost involuntarily your thoughts revert to Captain Sutter, on whose land a few years ago was discovered the gold that gave the first impulse to the rapid growth of California, with the history of which his name is so inseparably interwoven. He is said to be at present in very moderate circumstances, though he might doubtless have been one of the richest men in America. Captain Sutter, by birth a Swiss, was an officer in the Swiss Guard in Paris, when the July revolution under Charles X. broke out. He emigrated in consequence to the United States, and lived for several years in the State of Missouri. Thence he went by land to Oregon, where he thought to settle; but he met with some people who described to him the then almost unknown California, and especially the valley of the Sacramento River, as so beautiful and boundlessly fertile, that he was tempted to seek a home there. The only communication existing at that time between Oregon and California, was by such a long and toilsome land journey, that Captain Sutter found it preferable to go first to the Sandwich Islands, and return thence to Mexico, where he easily found a vessel by which he could reach Monterey and San Francisco. He arrived there in 1839, after a journey of twelve months' duration, and found very few settlers; but it was his intention to proceed into the interior, and found a settlement among the wild Indians; and though he was strongly dissuaded from such a dangerous undertaking, he executed his intention, and set out on the journey in a small boat, accompanied by a few determined men. After many fruitless attempts he discovered the mouth of the Sacramento River, and proceeded up the stream till he reached a spot that corresponded to his wishes, and there built a strong fort, in which he might defend himself from the attacks of the hostile Indians, while he took some of those that were friendly into his service. He lived happily and contentedly on his land, which was granted to him, as his property, by the Mexican Government, with the title of Military Commandant of the Frontier. After the discovery of the gold, however, he became the victim of many worthless speculators, who abused his good nature and misused his name, inducing him to engage in undertakings in which he lost nearly the whole of his estates, but with the incredibly rapid rise in the value of landed property the small portion left to him has been found sufficient to secure him a maintenance. He is now above sixty years of age, and lives in retirement at a small place called Hock's Farm, enjoying at least the esteem of all who know him, and certainly there must be few people in California to whom the name of Captain Sutter is unknown.

At the end of the Golden Gate, where the actual harbour begins, there is a high flat rock projecting boldly into the channel, and a better position for a fortification could not be imagined. The American Government has accordingly begun to construct some defences on it, and the works were going on when we arrived. The entrance to the harbour is completely commanded from this point, so that the smallest vessel could not pass its battery with impunity. Turning this Fort Point, as it has now been named, you see to the right, behind a perfect forest of masts, from which the flags of all nations are waving, the great staple place of the west, the city of San Francisco, completely covering a low hill that rises like an amphitheatre from the harbour. The "Frémont" steamed slowly on till it had almost passed the town, seeking for an unoccupied place on the wharf, where vessels of the largest size were lying in close ranks by the side of one another. The same active bustle was going on among the shipping as in New York, Liverpool, or New Orleans; some were getting out, others coming in; here was a deck closely thronged with European adventurers, there an East Indiaman with a crowd of Chinese in round felt caps and long tails; here a steamer was just quitting the landing-place with a ship-load of passengers thirsting for gold, to carry to the Sacramento; there one landing a similar ship-load from the mining districts, whose thirst perhaps was satisfied, and who brought their treasures with them. All was apparently hurry and confusion, but yet a certain order prevailed, produced by the natural wish of every one to lose as little time as possible. At a little distance off, so as not to impede the navigation, lay, like the bodies of mighty giants, a number of dismantled hulls of ships — the first that had arrived after the gold discovery, and which had been totally deserted by their crews, tempted by the hidden treasures of the interior. There was not a hand left to guide the helm or unfurl a sail, so nothing could be done with the ships, though they were in perfectly good condition, but to let them lie quietly at anchor, and serve for stores and warehouses. After moving backwards and forwards, and in and out, the "Frémont" at length made her way to a landing-place, and a host of carters — drivers with elegant coaches — and agents of the various hotels, rushed towards her, and shouted and yelled their offers of service. On account of the number of things we had with us, we were the last to go ashore, and then we went all together to a hotel where we were promised good rooms and beds, but warned that we must get meals elsewhere.

San Francisco, whose growth has been so astoundingly rapid within these few years, is, as is known, the most important place on the western coast of the American continent, and the time is certainly not far distant when it will be one of the first commercial cities of the whole world.

Its happy position at the mouth of the principal river of California, contributes much to the facility of intercourse between it and the interior; but before all else it is fortunate in the vast harbour into which vessels can find so easy an entrance, and where they are protected from every wind that blows.

The town itself exhibits a perfect chaos of the most heterogeneous erections: wooden sheds, tents, and palace-like shops and dwelling-houses; and it is still unpaved, though newer and larger buildings are continually arising, and stone quarries have been opened, and brick kilns set up in its neighbourhood. The streets are constantly filled with busy crowds, amongst which may be seen representatives of all the nations of the earth; carts, waggons, and coaches are driving about, doing their best to avoid coming into contact with one another, and the productions of the ends of the earth are offered for sale in all quarters. Even the most apparently unlikely articles are sure to find a purchaser; for the most insignificant there is gold in plenty, and no speculation ever appears too great to a Californian; he is ready for anything, and certainly for many an undertaking that would be thought mere folly and madness in other parts of the world.

After a sea voyage in which you have been able to pursue any train of thought in perfect tranquillity, a sudden plunge into the streets of San Francisco makes you feel perfectly giddy; and not merely from the wild clamour going on in them, but from the variety of elements of which the crowds around you are composed. There are Americans of every class, Europeans of every nation, Californians in their serapes, Mexicans in their laced calcineros, Chilians in their sombreros, Kanaks from Havai, Chinese with their long tails, and gold-diggers whose physiognomies can scarcely be distinguished for their brown skins and tangled beards, all hurrying about full of their own business, and not paying the slightest attention to any one else. We were very glad to find a shelter from the turmoil in our hotel.

The streets of San Francisco are all alive at a very early hour in the morning, for time is too precious there to leave a moment unemployed. The first labourers who make their appearance are usually the shoeblacks, who in all the streets, and especially at the corners, place their convenient arm-chairs with the latest newspapers over the backs of them in readiness, and they seldom wait long for a job. One customer after another is tempted to bestow a little polish on his boots, and seating himself without wasting a word, and placing his feet on the thereto appointed block, takes the newspaper offered him, and reads away diligently till he hears the words "Done, Sir," and then he pays his quarter dollar, and goes his way, making room for another. The quarter dollar appeared to be the smallest coin known in California when I was there, and the shoeblacks, labouring in their vocation, were taking them all day long, many passengers yielding to the inviting opportunity of the empty chair.

People who have purchases to make in the markets mostly take the morning hours for them, and it is worth the while of any one who can spare the time to go there for the enjoyment of the sight of the superb fruit and vegetables, which California already produces in superabundance, as well as the finest and richest meat in the world. In the fish market one might stand for hours looking at the wonderful variety of edibles that cover the tables and fill the tubs, from the ocean and rivers of the country.

New forms, and species entirely unknown to Europeans, as well as gigantic lobsters and turtle of above a hundred-weight lazily moving, just enough to show themselves alive, attract the attention of the purchaser or spectator; and if he betakes himself to the game market, he might fancy himself in a zoological museum, so multifarious are the products of the chase heaped up before him. In one place he sees the huge elk with its gigantic antlers, and the finely-marked forked antelope; in another the great bear of the mountains, hanging to a proportionably strong hook, with dull dead eyes, but wide open bloody jaws, and countless heaps of hares, rabbits, and squirrels lying around him. The feathered game lies in great piles, or hangs in long rows over the tables, and a naturalist would find no difficulty in furnishing his cabinet with the rarest and most splendid specimens, which he might get for the mere price of the meat, though this certainly would be a Californian price. From the markets, where you are sure to see many Chinese, you can follow these as guides to the quarter of the city appropriated to the Celestials, and there find many opportunities of observing the doings of this peculiar race, and becoming acquainted with their domestic habits. In the principal streets there are some shops and houses belonging to wealthy Chinese, but these have lost much of their national character, and you turn away from them to the lower quarters, where you see painted on large boards, in characters unintelligible to most mortals, the names of the traders and the wares they deal in. Many have added a translation into Spanish and English, but the spelling is so wonderful, that you are sometimes almost as much puzzled as before.

Until you have got a little accustomed to the Celestial physiognomy it seems as if you were always meeting one and the same individual Chinese, so perplexingly alike are they in size and complexion, in the projecting lower jaw, the thick lips, the little slits of eyes, and the expression or no expression of their ugly faces, in which age makes little or no difference: long practice alone can enable you to tell one from another. It would be difficult to enumerate the goods sold in the Chinese shops, but the skill of the race in embroidery, carving, and laying on of splendid colours is well known and admired, and they are the only dealers in San Francisco with whom there is any chance of obtaining an abatement of the price first asked; with all others a purchaser, if he thinks the price of an article too high, walks away at once, as he is sure nothing will be taken off, for the dealer well knows that if he does not buy it another customer will; it is only competition that keeps prices here at all within the bounds of reason.

The Chinese, however, will content themselves with the smallest profit, and since they hold a very low rank in the estimation of the Californians, they have no protection against a great deal of very hard usage, and are only allowed to carry on trade and dig for gold where others have already made their harvest. Some of these poor people work as day labourers for their oppressors, and in the absence of laundresses, their branch of industry has fallen into the hands of the Chinese, who perform it punctually at a reasonable price, and to the general satisfaction. It cannot be denied, indeed, that the contempt with which these people are treated is in a great measure deserved by their want of character; but this contempt is most offensively exhibited towards them by the most degraded class of the white population, fellows capable of any crime, and who have sought this Eldorado of the west in such numbers, chiefly because in the yet imperfect state of the laws they hope to give scope to their criminal passions with impunity.

Most people who visit San Francisco mention the gambling-houses and the lawless bands of rascals who there carry on their worthy trade, and I too paid a visit to these establishments, and stood for hours watching the heaps of gold changing hands continually, but sure to find its way at last into those of the privileged thieves, or *professional* players. In the evening, as I strolled through the streets with some companions, and looked in here and there at the brilliantly lighted *restaurants*, we came to a large building, through the open doors of which we could look into spacious halls, where a good orchestra was playing the most sentimental symphonies; but the crowds that filled the rooms appeared occupied with much more serious business. I entered, and with some difficulty made my way through the press to where I could see long rows of green-covered tables, on which every imaginable game of chance appeared to be playing on a grand scale. I looked at the keepers of the banks, who pay enormous sums for the place, and enjoy the privilege of cheating others with impunity; the lowest character of mind was strongly marked on their faces, and they were quietly manœuvring the cards and dice under protection of their revolvers, which lay ready on the table before them. I saw a lady too, almost covered with valuable jewels, who was adding with practised hand to the heap of gold that lay before her, and exchanging significant glances with some men near her, who doubtless were her accomplices. I turned from her with disgust to look at some of the unfortunate wretches who, driven by their own uncontrolled passions, fling into this gambling inferno the hardly won treasures that might ensure them a comfortable existence for life. "Twenty ounces!" "A hundred ounces!" "Two hundred ounces!" I heard on all sides incessantly as I approached the door; and just at that moment I was almost run over by a man who rushed out without his hat, and with both hands clutching in his hair, and disappeared in the darkness. We looked after him sorrowfully a moment, and then turned towards the Chinese quarter, to see what similar establishments looked like there. We had no occasion to make any inquiries, for the piercing tones of a most peculiar kind of concert reached our ears, and left us no doubt as to the direction we had to take. I entered the first of these places I came to, and was surprised by the shabbiness, I might say poverty, of the apartment; and yet there lay on the table, which had a rim round it, very considerable sums of money. The little figures in their wide jackets, short trowsers, colossal embroidered shoes, and long tails, stood round looking very solemn and absorbed, and their little eyes twinkled mistrustfully as they followed the course of the game, which was to me quite unintelligible. I only saw that on the middle of the table lay a heap of counters covered with a vessel, under which the player pushed his hand and took out a number of the tokens, which he began to count with a long pointed stick. After long counting, some money was put into circulation, and then the game began again, so that it almost appeared to me as if the whole affair were only some kind of "odd or even." I could not hold out long in this "festal hall," on account of the ear-rending performances of the gentlemen who were scraping away with long bows at two-stringed violins and violoncellos, and banging with small hammers upon drums and wooden basins, not to speak of the dreadful sound of the gong that went through one's very marrow, or the intolerably shrill voices that formed the accompaniment. All these things combined drove me to the theatre, to which fortunately France had contributed some very good music and dancing, and there I remained till after midnight.

After a hasty view of San Francisco, most travellers feel a desire to visit the mining districts and convince themselves of the truth of the very fabulous-sounding reports which are sure to have reached them in their homes, wherever those homes may have been. But when they get there, though they may learn something of the modes in which the precious metal is separated from rocks and sand, they will see little or nothing of the boundless wealth they have heard of; for those on whom fortune has smiled will carefully conceal the fact, to hide their wealth from envious eyes; and the most fortunate diggers will answer all inquiries with endless complaints of the thankless occupation of gold digging. There are, indeed, many who really repent having undertaken it, and throwing away pick and shovel, and renouncing the bold hopes that led them to undertake such a journey, seek some other less uncertain employment.

Some of this class sink under the severe and unaccustomed labour of gold digging or various climatic diseases; but others, by a more judicious application of their powers, find in various occupations what they sought for vainly in the mines; but in proportion as their riches increase their thirst for riches increases also, and by degrees they often lose all desire to return to their homes. Occasionally the holes that have been forsaken by despairing diggers are taken by others, who begin their labour with little hope, and after throwing out a few shovelfuls come upon a rich vein of gold, that lay but a few inches below the place at which their worn-out predecessors gave up the task; and going on from success to success they soon throw out a fortune from the dark lap of earth. These chances are of frequent occurrence at the gold diggings, and will be so as long as California remains the Eldorado of the West, as it may do for centuries to come, for it will be long, indeed, before these seemingly measureless gold-fields will no longer pay the working. When you walk through the diggings and see the thousands of brown-bearded fellows in the same coarse working dress, all wielding the pick, the shovel, and the wash-pan, it is curious to consider from what various spheres of life they have been thrown together here from the ends of the earth. Could one see them for a moment in their original character as merchants, clergymen, sailors, artisans, literary men, officers, actors, with a considerable sprinkling of thieves and murderers, one would not have to complain of any want of striking contrasts in the place; but here they are all reduced to the same level, and all busied alike, turning the course of rivers, blasting rocks, overturning hills, raking in the bowels of the earth for the thing that all mankind, with few exceptions, is striving for one way or another.

To legislate for a community composed of such heterogeneous elements is certainly no easy task; and yet it is precisely in such a one that the want of good laws and strict administration of them is most felt. In the consciousness of this want the inhabitants and labourers of the mining districts have been led to make laws for themselves, which are of tremendous severity, but do answer the purpose of the protection of life and property. Thefts and murders do, indeed, occur, but are almost invariably followed by the capture of the criminal, and the speedy execution of the sentence of Lynch-law, — by which the offender is either whipped or hung on the nearest tree.

These prompt punishments certainly seem to be effectual as warnings; for notwithstanding the rapid increase in the population, such cases are much more rare than they formerly were: though among the causes of this diminution of crime we must not forget the improved organisation of the government of California. The improvement has proceeded so far that simple tents, or huts slightly knocked together with boards and tree bark, are generally as safe from unauthorised intruders as locked warehouses; and the mere presence of tools in a gold hole is sufficient to deter any one but the proprietor from working it.

Those who find themselves oppressed by the crowds in the rapidly-growing towns, and stunned and wearied by the ceaseless uproar of active trade and the society of men who are indifferent to almost everything but gold, — for which they are willing to sacrifice both health and life,— may find relief and compensation in the mild climate, in the fruitful soil bordering the rivers whose waters reflect the grandest oaks and pines, and in the generous return that the inexhaustible fertility of the soil will make for the slightest labour bestowed on it; and while the sickly gold digger is watching mistrustfully over his treasures, the tiller of the ground may find delight in watching the prosperous growth of every seed and plant he puts into it, or in wandering over his rich pastures and seeing his prosperity continually increasing with the increase of his flocks and herds.

CHAP. XXI.

GIANT TREES. — EMBARKATION ON THE "OREGON" STEAMER. — THE HARBOUR AND CITY OF ACAPULCO. — FIVE HOURS IN ACAPULCO. — LANDING IN PANAMA. — THE TOWN OF PANAMA. — RIDE TO THE RAILWAY STATION. — ARRIVAL IN ASPINWALL. — ON BOARD THE STEAMER "ILLINOIS." — ARRIVAL IN NEW YORK AND WASHINGTON.

CALIFORNIA is the land of wonders, and every traveller who reaches it may find something in it corresponding to his inclinations. The observer of nature and worshipper of her silent influences, who feels himself most at home in the vast realm of the vegetable world, and in watching the operation of the laws that govern the growth and development of plants, may find in this land of gold, spots on which he will walk as on consecrated ground; and will look up with rapture at the gigantic trees that lift their proud heads to bear witness, like the pyramids of Egypt, to the lapse of thousands of years; and as they suggest thoughts of their builders, so do these of a mightier hand.

About thirty miles from Sonora, in the district of Calaveras, you come to what is called the Stanislas River; and following one of its tributaries that murmurs through a deep, wooded bed, you reach the Mammoth-tree Valley, which lies 1500 feet above the level of the sea. In this valley, which takes its name thence, you find yourself in the presence of the giants of the vegetable world; and the astonishment with which you contemplate from a distance these tower-like coniferæ, rising far above the lofty pine woods, is increased when on a nearer approach you become aware of their prodigious dimensions. There is a family of them consisting of ninety members, scattered over a space of about forty acres; and the smallest and feeblest among them is not less than fifteen feet in diameter. You can scarcely believe your eyes as you look up to their crowns, which, in the most vigorous of the colossal stems, only begins at the height of a hundred and fifty or two hundred feet from the ground.

Whether it is the enormous girth of the grey moss-grown trunk, the incredible height, or the straight beautiful growth, that produces so powerful an impression, it is long before you can collect your thoughts sufficiently to be able quietly to consider their peculiar characteristics, and determine to what species they belong. They are coniferæ of the family of the *Sequoia* (Endl.) *, and many names have been assigned to them by various botanists who have seen and described them.† Most of them have blunt tops, which have

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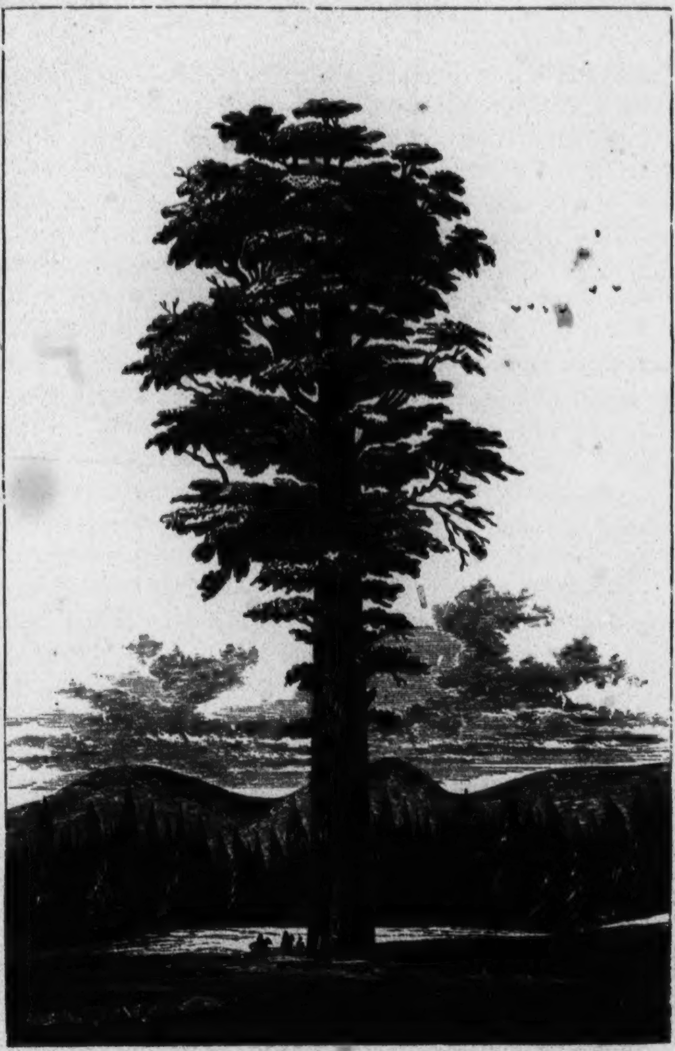
* These gigantic forms are of the race of *Pinus Sequoia* (Endl.), *Araucaria* and *Dacrydium*. I am only speaking of those species whose height not only reaches, but very often exceeds, 200 feet. — *A. von Humboldt's Aussichten der Natur*, vol. ii. p. 197.

† In a letter of Dr. Klotsch, he says, "For the mammoth tree growing in the province of Calaveras in California, we must retain the name assigned to it by Lindley, in the Gardener's Chronicle for December, 1853 (No. lii. p. 820–823), *Wellingtonia gigantea*, as it is the oldest systematic name containing any characteristic that has been bestowed on it; but we may also propose as a synonyme that given it by a North American, Dr. A. F. Winslow, *Washingtonia Californica*; and also *Sequoia Wellingtoniana*, given by Berthold Seemann."



Sequoia gigantea (Wellingtonia gigantea).

been nipped or broken off by storms in winter, or by the mass of snow resting on them; others have been injured at their base by fires made by the Indians; and others, again, have suffered from the axe of the white population, in their restless search after everything in nature that can bring them pecuniary profit. With this motive one trunk has been robbed to the height of fifty feet of its bark, which has been carried about and exhibited in various parts of the world; and a spiral staircase was afterwards cut in it, by which visitors (paying for their admission) ascended to a considerable height. The owner of this district, who also acts as guide to visitors, has given a name to every tree according to its position, or to some circumstance about it that has struck his fancy. The tree that has been cut down was denominated "Big Tree;" not without reason, as it is 96 feet in circumference, consequently 32 feet in diameter, and 300 feet high; it took five men twenty-five days to fell it, and the only way this could be effected was by boring holes in it which were then brought into connection by the axe. The stump that was left has been smoothed at the top, and offers a surface on which it is said sixteen pairs of waltzers can perform their gyrations without interfering with one another's movements. By counting the rings it would seem that that tree must have attained the age of 3000 years. Another, called "Miner's Cabin," from a hollow in the trunk, is 80 feet round and also 300 feet high. The "Three Sisters" are three trees that appear all to issue from the same root, and the middle one only begins to get its branches at the height of 200 feet; its circumference is 92, and its height 300 feet. Besides these there are "Old Bachelor," "Husband and Wife," neither much inferior in size to those I have mentioned; and even more colossal is the "Family Group," consisting of father, mother, and twenty-four children. The father has fallen some years ago, has struck another tree in its fall, and has broken off in a length of 300 feet, the entire trunk measuring 450 feet; at the place where it broke, its circumference is 40 feet, and at the base 110 feet; the mother is 91 feet round and 327 feet high; and another hollow trunk which has broken off in a length of 75 feet is denominated the "Horseback Ride," because a man on horseback can ride conveniently through it from one end to the other; and there is also "Uncle Tom's Cabin," a trunk 300 feet high and 90 feet round, with a hollow at the base in which there is plenty of room for a party of five-and-twenty. The rent that forms the entrance to this tree is two and a half feet broad and ten feet high, and certainly few of the gold diggers have such spacious dwellings as its interior presents. It is most grievous to think that these magnificent monuments of the power of vegetation should fall a prey to the destructiveness of man, when after their thousands of years of existence they are still vigorous enough to remain, if they were left untouched, as objects of wonder and admiration to generation after generation of our short-lived race.

"The steamer 'Oregon' will leave here on the 2nd of April, with passengers, for Panama, and gentlemen who wish to take this opportunity of getting to Washington will be good enough to communicate their wishes to me as soon as possible, that I may secure places for them in the cabin." This was the announcement made to us by Lieutenant Whipple, a few days after our arrival in California. He himself, with Mr. Garner, Mr. Marcou, and Dr. Bigelow, proposed remaining a little longer; but six of the party, myself included, decided for the passage in the "Oregon," and accordingly betook ourselves, with bag and baggage, at the appointed hour to the wharf, where the "Oregon" lay, gasping and letting off steam, and taking in passengers and goods with the customary clamour. A short time before we started, a certain sensation was perceptible among the people on board, and I heard from various voices the words, "the treasure is coming," and perceived in the direction of the town, in some streets that ran down to the harbour, a well-closed, two-wheeled waggon, drawn by strong horses, and surrounded by an escort of men, who made way for it, and kept back the crowd from too near an approach. These measures of precaution were not surprising, when it is considered that a few weeks before, a heavy treasure waggon had broken through the bridge at the landing-place, and that on examination, it appeared that the beams supporting it had been nearly sawed through, so that any heavy load passing over it must inevitably break in. This plan had been contrived by thieves, who calculated on appropriating, in the confusion, some of the parcels of gold, and sinking them in suitable places; but they had not succeeded in their stratagem, and had only induced greater caution for the future.

The treasure-waggon stopped near the paddle-boxes, where a plank was laid across to the vessel; all other communication with the shore was stopped for a time, the waggon was opened, and a number of men began to carry down the million and a half of dollars, in gold dust, into the hold, where it was soon secured under heavy bolts and bars ; and as soon as the gold was all on board, the guns were cast loose, the ropes cast off, the great paddle-wheels began slowly to revolve, and the "Oregon" soon got clear of the crowd of vessels, thundering a parting salute to San Francisco, which was answered by a threefold "Hurrah" from the landing-place: the great ship glided out of the "Golden Gate," and was soon rocking on the mighty waves of the Pacific.

We carried 900 passengers, the greater part of whom were only going to pay a visit to their homes, and proposed returning to California; but there were some who were leaving the country altogether, heartily weary of it, and others who were leaving it so poor as to be obliged to work their passage back. As the steamer was only intended to take 500 passengers, it may be supposed that it was a good while before room could be made for nearly double the number, and one half of them was after all compelled to pass the night on benches and tables, and especially on the clean-scoured deck. Under these uncomfortable circumstances, it was longer than it usually is on a sea passage before a social feeling sprang up among the company; but I was fortunate enough to meet with three well-educated Germans, who, after acquiring considerable fortunes, were going to pay a visit to Europe; and besides the pleasure I found in speaking my native language once more after an interval of a year, there grew out of this acquaintanceship many agreeable hours for us all, as many of my old comrades joined our circle of lively, light-hearted young men, so that our voyage on the Pacific appeared a mere pleasure trip.

We had the most glorious spring weather too, so that when in the course of twenty-four hours we found ourselves 250 miles nearer the Equator, the warm clothing was thrown off, and the passengers lay about the deck in the lightest summer costume, panting for every light breeze that floated by.

On the 9th of April we found ourselves only a little way from the coast, and in the afternoon one of the sailors, pointing to a rugged mass of mountain before us, said: "There lies the harbour of Acapulco." We looked, but all we could see was a flag-staff upon a hill, and rather more to the south a small bay. Towards this, however, the steamer steered, and entering a channel that turned with a wide curve towards the north soon lost sight of the sea, whilst a sort of inland lake opened before us enclosed by romantic shores with lofty rocks; and this was the basin of the harbour of Acapulco.

This harbour is considered not only one of the finest in appearance, but also one of the best in the world. It is completely protected by high mountains, and only accessible by a somewhat circuitous but very deep channel, in which ships of the greatest burden can pass in safety, close to rocks that rise sheer out of the water. Acapulco has, nevertheless, lost much of the importance that formerly accrued to it from its trade with China and the East Indies, and is only recovering a little by having become the middle station for steamers running between Panama and San Francisco. Travellers do not like to remain long in this glowing hot rocky basin, into which no strong wind can find its way to purify the atmosphere, and where deadly maladies of various kinds prevail, and severe earthquakes are continually occurring; but it looked very beautiful to us when, leaving the restless ocean, we entered the spacious glassy basin, surrounded by picturesque rocks, whose foot was but gently bathed by the bright clear water. Towards the north, on a narrow strip of land between the mountains and the shore, lay the town, shaded by cocoa-nut trees and other palms. At the eastern end of it there rises a little fortress that completely commands the entrance to the harbour; but it is in a very bad state, and has suffered much from the frequent earthquakes.

The "Oregon" hastened across the harbour, and passed the fortifications and the town, and stopped her engines at an old worn-out ship, which, in connection with a high scaffolding, serves the purpose of a coal wharf, and immediately began to take in fuel for the remainder of the voyage.

The approach of the steamer must have been known in the town long before she made her appearance, for she had scarcely made fast to the shore before fishing boats of all sizes came crowding round us, the rowers shouting out loud invitations to us to take an excursion on the land, and by far the greater part of the passengers availed themselves, up to the last moment, of the five hours allowed by the captain for the pleasure of a walk on dry land.

Scarcely was it announced that this time would be allowed before we all rushed to the ladders, and in a few minutes numerous heavily-laden boats were rowing towards the shore, and shortly afterwards hundreds of the passengers were strolling about the streets, where also the greater part of the population of the place made their appearance; and, whether because it was Sunday afternoon, or that the landing of a cargo of Californians gave hopes of gain, the whole town presented the appearance of a lively fair, with close lines of booths. There were tables with lemonade, pastry, shell-fish, and cigarretos, and behind them, in airy white cotton garments and straw hats, people of every age and both sexes noisily announcing to the world the good qualities of their wares. We bought of everything; but what we were most attracted by were the piles of superb southern fruits that were offered for a mere trifle. The oppressive heat of Acapulco, to which no cool breeze appears to find its way, made the cool drinks, the yellow pineapples, and fresh green bananas exceedingly tempting; and whole cartloads of them were purchased and dispatched on board the steamer.

The hours flew by unperceived, evening came on, lights glimmered through the open doors and windows of the one-storied houses, coloured paper lanterns illuminated the booths, and the crowd became thicker and thicker as the inhabitants left the retreats that had afforded them shelter during the heat of the day, to enjoy an evening walk. I saw, however, no women of the higher class, possibly on account of their not unreasonable shyness of encountering the roughness of returning Californians.

I had an adventure of a peculiar kind with the children, who on our landing had come flocking towards us with their hands full of beautiful shells, white corals and other marine productions. I asked several of them the prices of these things, with the intention of buying some, but always received the same answer, in scarcely intelligible English, "*I present.*" I wondered a little at their generosity, but took the pretty shells with many thanks,—indeed they were almost forced upon me,—until I had quite filled a handkerchief with them.

When at last I could take no more for want of room to stow them, and therefore declined some that were offered me, the entire little mob came running after me, clamorously demanding a present in return, and to avoid a row, I had to give each of them some money. No one of the small rascals could be induced to take back any of the shells, and remarked, truly enough, that now that I had mixed them all together, I should not be able to give each one his own again. I put as good a face on the matter as I could, though I am convinced I presented five cent pieces to twice as many children as I had taken shells from; and so gained possession for a dollar and a half of what I could easily have bought for a quarter dollar. When I got back on board and related my adventure, I expected to get well laughed at; but I found that, instead of my being the sole sufferer, almost every one had had the same experience of the hopeful youth of Acapulco, and one added that when he had made some movement to chastise the little vagabonds, several bowie knives had made their appearance among the men loitering near.

We strolled about the animated streets till a late hour, stopping sometimes before a booth and sometimes before a gaming table, where cards and dice were at work, and then went down to the beach to refresh ourselves with a bath in the crystal flood, though, remembering the sharks we had seen in the day-time in the harbour, we kept very close to the shore. We were still in the water when a gun was fired to warn us not to stay too long, and a few minutes afterwards we were at the landing-place, where we had to fight our way through a dense crowd, to obtain a place in one of the boats that were crowded almost to sinking. Two half-naked brown fellows pushed it from the shore, sprang lightly in, and then we glided with a scarcely perceptible touch of the oar towards the "Oregon" that stood out like some huge black monster against the brilliant night sky.

The sounds of active life still reached us from the town, lights glittered on the shore, and were reflected along with the outline of the neighbouring mountains and palm trees in the smooth water, while the track left behind by the boats gleamed in the phosphoric light. It was one of the most glorious of the nights so common in the tropics, and I sat long on the deck enjoying the picturesque scenery to which the shadows of the night lent an additional mysterious charm, and on the following morning, when I came out of my cabin, the foam was dashing from the bows of the "Oregon" as she hastened on her way towards the south, and I could only just perceive on the eastern horizon the blue lines of the jagged mountainous coast.

Our further voyage on the Pacific lasted six days, which passed very monotonously. In the cabins there was the same everlasting clatter of covering the tables for some meal or other — on the deck the hours dragged on at their accustomed slow pace with the lounging or recumbent company, but we generally wakened up a little towards evening, and songs and jokes in various languages and dialects began to be heard from groups that had gradually become clustered together. By and by ice-pails made their appearance in various corners bearing pineapples, bananas, the noble Rhine wine, and foaming champagne, and as the empty bottles flew overboard, and fresh, well-corked ones took their places, and home melodies sounded lustily from many voices, it would have been strange indeed if the spirits of the company had not risen to a gay pitch.

On the night of the 15th of April the "Oregon" dropped her anchor before Panama, passengers were warned to hold themselves in readiness for an immediate departure, though we could only see the dark outline of the coast at a distance of a mile and a half, for ships of heavy burden cannot get nearer. Faint lights soon began to twinkle on the surface of the water, as the people at Panama were expecting the arrival of the steamer, and a gun had been fired when she came to anchor; we were soon surrounded by boats, the disembarkation of passengers and goods, including the gold, was speedily effected, and the passengers were shortly after hastening in all directions through the dark streets of the old town. I reached the land with some of my old travelling companions in one of the first boats; but as it was the time of the highest flood tide we had to wade through the water over a piece of sharp stony ground before we could actually land, and even then our attempt to get a lodging in a hotel failed entirely, as an Atlantic steamer, the "Illinois," belonging to the same line as the "Oregon," had arrived only a few days before at Aspinwall on the east side, and Panama was consequently filled with hundreds of passengers waiting for an opportunity of getting to California, and all the houses we entered were so overcrowded that we preferred wandering about the streets and the broad rampart till daybreak to entering them.

In spite of the noise and bustle and the throng of men from all quarters of the world, by which Panama is from time to time overflowed, the town has not lost its antique and even venerable aspect, and all the clamour of arriving and departing travellers cannot altogether put to flight the thoughts awakened by the sight of its monuments of departed greatness. The ruins of five old churches and other buildings, some of which have never been finished, attest the importance of the place in former times; tropical climbing plants festoon over and partly conceal their architecture, palm-trees grow luxuriantly in their lonely courts, and banana-trees have taken root in the clefts of the mouldering walls, and overshadow with their thick leafy crowns the empty arches of the windows and the openings in the grey walls. I could not look long enough at the fine effects often produced by these things, and much regretted being obliged to leave so soon such an interesting spot. We were tolerably tired when we at last reached the broad ramparts whose foundations were washed by the waves of the Pacific, but we walked up and down for a long time looking at the islands that lay towards the west, and at the coast which forms the northernmost point of South America, admired the bronze cannon still occupying the place originally assigned to it, and at length threw ourselves down on the green turf to get a few hours' sleep. We were awakened by a confused noise from the town, reminding us that we had no time to lose if we wished to get mules for the journey of thirty miles to the railroad station, and to take our passage to New York by the "Illinois;" so after refreshing ourselves with a sea bath we betook ourselves to the house whence the Steamboat Company forwards goods and passengers across the isthmus. The streets were swarming with mules, which mestizos of most ruffianly aspect were willing to let out to travellers for the price of from ten to thirty dollars for the ride to the railway station, but they all disappeared almost immediately from the brisk demand for them, and as on account of the number of our packages we were obliged to be among the last, we had great difficulty in getting any. We were on the road by ten o'clock, however, taking care, by the advice of some American residents, to look well to our arms before starting, and soon found ourselves beyond the town and among plantations blooming in tropical luxuriance, and close entangled woods in whose upper regions parrots and monkeys were carrying on their noisy recreations. Following an ancient and badly paved road, so narrow that we had sometimes scarcely room to avoid the mules we met, we gradually reached the summit of a height. The sun sent down his burning rays almost perpendicularly upon us, so that even on the heights the heat was almost intolerable, and we joyfully hailed the sight of each of the little huts covered with palm leaves where for good payment cool lemonade was offered. We met a great many of the natives of the country, colossal, blackish-brown, half-naked fellows, sprung from the mixture of the negro and copper-coloured races, who by their brutal manners and the two feet long broad knives they usually carried under their arms, made us understand very well why we had been cautioned to look to our weapons, and since we were but a small party to have them ready for immediate use.

The trees meeting like a roof over our heads involved us in impenetrable darkness, and we had several times only the sure-footed mules to thank that the natives who met us did not push us down some steep descent; but late in the evening we reached the station, where there are some houses, or sheds, roughly put together with large beams and planks, and destined for the reception of strangers.

We alighted, and leaving our mules at liberty, though still saddled and bridled, we entered a hall where a dense crowd of men were moving about as well as they could. As I saw tables with eatables, and in a corner a long sideboard with a negro presiding behind it, I went immediately, and asked whether I could have supper and a bed. He replied by advising me to buy three tickets while there were any to be had, which would entitle me to what I had asked for, and also to a breakfast in the morning, and after a little discussion I followed the example of the rest of the passengers, and bought the said tickets for a dollar apiece.

The first was asked for the moment I had swallowed my first mouthful, and I saw that I should have been turned away from the table if I had not had it. After supper I set out immediately on a search for a bed, but though I saw hundreds, each of them had already two tenants peacefully reposing by the side of one another, who did not at all look as if they would have taken quietly any interruption of their slumbers; and the close unwholesome air and the appearance of the beds disgusted me so much, that I went outside the door, stretched myself on a bench in the open air, and was soon in comfortable sleep.

I was awakened from it, however, by being violently shaken, and opening my eyes saw standing before me a gigantic negro, who demanded my ticket for a bed. I scarcely knew at first what he meant, and almost thought he must be joking, so I replied that when I got the bed he should have the ticket. He was quite in earnest, however, and said I had been sleeping on his bench and under his roof, and that that was worth more than a dollar. I saw it was of no use to dispute the matter, so gave him the ticket, but I could not refrain from complimenting him on the easy and expeditious mode he had discovered of levying contributions on travellers; but he took my observations very quietly and left me to the undisturbed occupation of the bench, and a sleep that was only broken by the first beams of the morning sun.

The luxuriant tropical vegetation surrounding me during the remainder of the journey across the isthmus, and the beauty of the small clearings and palm-covered cottages by which it was varied, much as I admired them, could not suffice to banish the uneasy thoughts that occupied me concerning my luggage, which had not yet arrived, and my uncertainty about the departure of the "Illinois," missing which I should have to remain four weeks more in this land of fevers and of thieves. Fortune, however, was so far propitious to me that when, after several hours travelling on a very bad railway, I reached Aspinwall, I and my companions were still able to get tickets for the passage by the above-mentioned steamer.

To our inquiry when she would weigh anchor, the reply was "To-morrow morning," and therewith content, we betook ourselves to the best hotel, purchased three tickets as before, and in high good humour sat down to supper. But just as we were making ourselves very comfortable, we heard a gun fired that suggested an unpleasant doubt. We listened, and lo, another gun left us no doubt at all. The "Illinois" had changed her mind and was going almost immediately. There was not a moment to lose; we rushed towards our baggage, and after an hour of the wildest confusion found ourselves on board the steamer, with two out of the three hotel tickets left in our pockets. We carried them to New York as *souvenirs* of Aspinwall, and of the peculiar kind of industry exercised by its landlords.

Of a prosperous sea voyage there is little to be said. I saw the blue coasts of Cuba and the Bahama Islands, and landed, after a nine days' passage, on the 28th of April, at New York. There I remained only two days, and in the course of a few weeks met once more Lieutenant Whipple and my old companions in the government offices at Washington.

CHAP. XXII.

REPORT OF THE SECRETARY OF WAR OF THE UNITED STATES, MR. JEFFERSON DAVIS, ON THE ROUTE EXAMINED BY THE EXPEDITION. —CONCLUSION.

I HAD been for some time back in Europe after returning from the above Expedition, when Lieutenant, now Captain, Whipple forwarded to me, among other pamphlets, a paper composed by Mr. Jefferson Davis, the United States Secretary of War, in which he had laid before Congress a brief report of the various lines proposed for the railroad to the Pacific, and from which I make the following extract:—

"Route near 35° N. Lat. The chief lines which determined the direction of this route, and the investigation of which was conducted by Lieutenant A. W. Whipple, of the Corps of Topographical Engineers, are the western and eastern prolongations of the approaching tributaries of the Mississippi, of the Rio Grande, and of the Great Colorado of the West. It seems that more rain can be counted upon there than in the regions north and south of this line, and consequently a better supply of fuel and timber may be expected.

"The road beginning at Fort Smith on the Arkansas river, about 270 miles from Memphis on the Mississippi, may, as far as the Antelope Hills, that is, for a distance of 400 miles, follow either the valleys of the Arkansas and Canadian, or take a shorter, but not equally favourable, route south of the Canadian. This latter route has, however, two branches, following either the valley of the Washita, or the watershed between that river and the Canadian.

"From the Antelope Hills the road leads to the mouth of the Tucumcari Creek in the valley of the Canadian, and along its right bank, for a distance of 250 miles, and then, through the valley of the Tucumcari or Payarito Creek upwards to the watershed between the Canadian and the Pecos, to a height of 5543 feet, and then down into the valley of the latter. The line then follows this valley, until by taking advantage of a tributary, it reaches the high table-land or basin eastward of the Rocky Mountains, which is at a height of 7000 feet above the level of the sea. It then leads through the elevated Salinas Basin, which is thirty miles broad, and whose lowest elevation is 6471 feet above the sea-level, and reaches the watershed on the Rocky Mountains at a height of 7000 feet. From this point it runs through the San Pedro Pass down to Albuquerque or Isleta, on the Rio Grande, or it may also pass through the valley of the Galisteo river, north of the Sandia Range to the same spot. A third route has been mentioned which leads up the valley of the Pecos, thence to a tributary of the Galisteo, and then also to the Rio Grande. Isleta on the Rio Grande is 854 miles from Fort Smith, and 4945 feet above the sea. The route leading across the heights that separate the Rio Grande from the Puerco follows the valley of a tributary of the latter, namely, the San José, up to one of its springs in a pass of the Sierra Madre, called Camino del Obispo. On the summit (8250 feet high) a tunnel of three quarters of a mile is required at no less an elevation than 8000 feet, whence the descent to the Zuñi rivers in the neighbourhood of Pueblo de Zuñi can be effected. The road then leads over the hilly ground near the Navahoe Spring to the Puerco of the West.

"Another route over the Sierra Madre, about twenty miles further north, was examined by Mr. Campbell, and apparently found much better adapted to the purpose. The section of it has, however, not been determined with trustworthy instruments: the elevation of the highest point above the sea is 7750 feet. The Puerco of the West rises in this Pass, and the route follows the valley of this little stream (joining the other line at the Navahoe Spring) as far as its mouth in the Colorado Chiquito, and then leads through the valley of the latter to the foot of the south-eastern declivity of the San Francisco Mountains, to a height of 4775 feet. The distance from Fort Smith is 1182, and from the point of passage of the Rio Grande 328 miles.

"From here, the route leads up to the watershed between the waters of the Gila on the south, and those of the Colorado of the West on the north, and proceeds along it about 200 miles further to the Aztec Pass, whose height is 6281 feet, and the distance from Fort Smith is 1350 miles. On this extensive ridge, the highest point is Leroux's Spring, at the foot of the San Francisco Mountains, which is at 7472 feet. The descent from the Aztec Pass to the Rio Colorado of the West is effected by describing a curve towards the north, along the tributaries of the Colorado, of which the last and the most important is the Bill Williams Fork, the mouth of which in the Colorado is 1522 miles from Fort Smith, and its height 208 feet above the sea. The route leads then thirty-four miles up the Colorado, and leaves it at the Needles to follow a valley that has been erroneously taken for the Mohave river. But it proved to be the then dry bed of a river, whose springs must be sought on the high ridge that probably separates the great basin from the waters of the Colorado. After this height, 5262 feet above the sea, has been attained, it proceeds, with an average fall of 100 feet to the mile, for a distance of forty-one miles (the steepest descent on the whole route), down to the Soda Lake, which at certain times of the year receives the waters of the Mohave river, and lies 1117 feet high. The ascent from the Soda Lake to the summit of the Cayon Pass, on the Sierra Nevada (4198 feet) is effected by following the valley of the Mohave. The summit of this pass is 1798 miles from Fort Smith, and 242 from the passage point of the Colorado. Here a tunnel of from two and a-half to three and $\frac{4}{10}$ths of a mile, through white conglomerate sandstone, would be required. Towards the west, the route leads downwards with a fall of 100 feet to the mile, which may be considered the average fall of a tract of twenty-two miles, as far as the valley of Los Angelos; if on a closer examination it should appear that the rugged character of the mountains will allow of its diminution where it varies from 90 to 171 feet to the mile. Thence to the valley of San Pedro the ground is altogether favourable. The principal peculiarity of this route in comparison with others, is that it passes over lands more capable of cultivation; that, as far as the Colorado, it has the advantage of a more plentiful supply of water; and that between the Rio Grande and the Colorado there are many extensive woods. These two latter advantages outweigh the unfavourable circumstance of the great number of ascents and descents. Near the 90th meridian, the transition from fruitful soil to such as is incapable of cultivation is complete, except in the valleys of the rivers. The upper parts of the valleys of the Canadian and the Pecos, of the Rio Grande, the Zuñi, the Colorado Chiquito, the San Francisco, the Colorado of the West and its tributaries are not unfertile, but generally need artificial irrigation to become productive. That part of the south-western extremity of the great basin across which this route leads, and over which the researches of Lieutenant Williamson also extend, is very fertile, and its occasional barrenness only proceeds from the want of rain. The plains incapable of cultivation usually have an abundance of nourishing grass, although extensive tracts are found with little or none. It may be assumed that the route is sufficiently provided with good stone for building purposes, as it is well known that the sandstone adapted for bridges is present in the ordinary soft Triassic formation, which extends from the Delaware Mountains on the Canadian to the Rocky Mountains, over a distance of 600 miles. Forests yielding timber fit for railway purposes are found all along the route eastward of the 97° W. lon. in or near the valley of the Pecos in the Rocky Mountains and the Sierra Madre in the Mogoyon Mountains (south of the route), in which the Colorado Chiquito and some of its tributaries take their rise; on the declivities of the San Francisco Mountains, thence along a tract of 120 miles, and in the Sierra Nevada. The distances between these points are 540, 100, and 150 miles; from the Sierra Madre to the San Francisco Mountains 250 miles, and for 120 miles further, the supply of timber may be regarded as uninterrupted; thence to the Sierra Nevada is 420 miles. If the construction of the railroad were begun at both ends, the greatest distance over which timber for sleepers, &c., would have to be carried would be 400 or 500 miles. In this respect, therefore, the route may, in comparison with others be considered favourable. The same localities yield wood for fuel, and the eastern part of the route where it is scarce, may be supplied with fuel from the coal beds of the Delaware Mountains. It is stated also that there are coal beds in various parts of the Rocky Mountains, eastward and westward of the Rio Grande, and near to this route, but there is no well authenticated information as to whether the coal is in sufficient quantity to pay the working. From 450 miles east of the Sierra Nevada, the line must be supplied with fuel from the ports on the Pacific; there are tracts on this, as on all the other routes where there is not even fuel enough to carry on the works, but the greatest distance in which this entire want of wood prevails, is on a tract of 115 miles between the Colorado and the Mohave. The precise distance at which, at certain times of the year no water is found has not been determined. Between the 100° W. lon. and the Pacific, are some perfectly waterless districts, but from their geological construction it may be inferred that a sufficient supply could be obtained by artesian wells. Westward of the Rio Grande, the expense of the larger supplies of wood and water is increased by the ruggedness and inequality of the ground. In the Galisteo Pass in the Rocky Mountains, and the passes of the Sierra Madre, which might rather be called valleys and wide openings than passes, the snow would form no hindrance, even though it should fall in hitherto unheard of masses; on the remainder of the route there is no danger of that kind to be feared. The sum total of the ascents from San Pedro to Fort Smith, amounts to 24,641 feet; that of the falls 21,171 feet.

"The general structure of the country indicates that on a closer examination facilities might be found for a considerable decrease of the ascents and descents, and for shortening the distances; but the Expedition was not in a position to make these further researches. The steepest gradients, which probably cannot be avoided, on the road from Fort Smith to San Pedro, do not equal those on the Baltimore and Ohio lines. The description of the topographical construction of the route is not at present sufficiently exact to enable us to form a perfectly clear picture of the difficulties to be overcome in the country, or of the probable cost of the proposed railroad. Lieutenant Whipple compares the various parts of the route with railways already finished, which appear to be of similar character, and to have been attended with similar difficulties. Four hundred and eighty miles are compared with the Hudson River Railroad, 151 with the Worcester and Albany or Western Railroad, and 374 with the Baltimore and Ohio line, according to which 1005 miles are designated as equally expensive with the most costly railroads of the United States. The general impression, however, from the description of the route, is that the ground is more favourable than the comparisons of Lieutenant Whipple would imply. If we assume that these comparisons are correct the estimate for the whole route from Fort Smith to San Pedro would amount to 169,210,265 dollars. This calculation is, as has been observed, too high; but the exact details of the way in which it might be diminished have not yet been communicated to this department. Should it appear desirable to reach San Francisco by the Tulares and San Joaquin valleys, the road must leave the Mohave River thirty miles before the Cayon Pass (distance from Fort Smith 1768 miles, height about 2555 feet), strike across the south-western point of the great basin to the Tay-ee-chay-pah Pass, and reach its mouth at a height of 3300 feet and a distance of 80 miles; from this point the route coincides with the 32nd degree N. L.* The sum total of the ascents from San Francisco to Fort Smith on the route by the Tah-ee-chay-pah Pass amounts to 25,570 feet, the depressions to 25,100.

"The examination of this route by Lieutenant Whipple, and his report concerning it, deserve the highest acknowledgment, as well on account of the manner in which the work has been performed in all the departments, as of the accurate and complete observations which have been made to determine the latitudes and longitudes, and for the extension of scientific inquiry into all collateral branches, bearing any relation to the problem for the solution of which the Expedition was appointed.

"JEFFERSON DAVIS,
"Secretary at War for the United States."

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* From the position of the Tay-ee-chay-pah Pass, it appears that the 35th and not the 32nd deg. must be meant. In drawing up the Report, the line running along the 32nd deg., and marking the boundary of California, may possibly have been mistaken for that of the supposed railway, or the error may have arisen in the German press; but as the author is now absent on another expedition, and the translator has not the paper in question to refer to, she has thought it best to leave the passage unaltered.

The above brief summary of the results of the Expedition described in this work is given as the explanation of the accompanying map. Some time has passed since my return, but I shall always preserve a lively and grateful recollection of my respected friend Captain Whipple, under whose command I made this interesting journey. How he performed his task is best stated in the acknowledgments of Mr. Jefferson Davis, and though I shall always feel enthusiastically on the subject I refrain from making any addition to them; but I may, at least, here return him my warmest thanks for the unfailing kindness he showed me during the time we passed together, for the consideration with which, as my commanding officer, he always treated me, and for the sincere friendship manifested towards me in his numerous letters. I still cherish the hope of being some day again engaged under his command in a similar enterprise. Whether I may ever again meet with any of my old comrades seems uncertain, for our merry party has been scattered to all points of the compass. My dear and worthy friend Dr. Bigelow is now living happily in his family circle in Ohio, and employing his leisure hours in botanising excursions about the country; the military officers are probably at some of the forts in the Far West, or in Florida, and the civilians are pursuing various avocations in Minnesota, California, Oregon, Virginia, and some probably in Washington or Europe; but wherever they may be I shall always retain a cordial recollection of the brotherly feeling that united us during the good and evil days of our journey from the Atlantic to the Pacific Ocean.

At the conclusion of my task I can scarcely refrain from something like a feeling of melancholy, and would fain linger over the description of the scenes of loveliness and sublimity in Nature that still rise so vividly before my memory; but my powers are inadequate to reproduce them in the colours of reality, and I send forth my work as it is, with the full consciousness of how far it has remained behind my wishes, and how much need it has of indulgence.

I was occupied in looking over the last pages of my MS. when a letter was delivered to me from Lieutenant Ives, who has been frequently mentioned, beginning thus:—

" Mr. Möllhausen,—I am desired by the Secretary at War to communicate to you that you have been appointed as assistant to an expedition to proceed under my command to the exploration and survey of the Colorado River. You will, therefore, proceed from New York to San Francisco in the steamer which leaves there about the 20th of September, 1857, and should you there find no special instructions, go on by the next boat to San Diego, where you will present yourself to me. Allow me to express the pleasure I feel at this renewal of our intercourse."

By the time this book is published, therefore, I shall be again on the coasts of the Pacific, collecting materials for further work. This fulfilment of my wishes I by no means owe, however, to my own exertions or merits, but to the untiring kindness of the high-minded man, of whom an American, holding one of the most important public offices of his country, once expressed my own feeling when he said to me, uttering at the same time the general sentiment, " How sacred to me is every word of Alexander von Humboldt!"

NOTES

TO

THE SECOND VOLUME.

14.

Page 52.—See *Marcou*, p. 5.

15. The Sierra Madre.

Page 61.—From the Rio Puerco to the Sierra Madre our way led continually over the triassic and jurassic formations, which in these regions are covered with immeasurable streams of lava, originating in the extinct volcano, Mount Taylor, visible at some distance towards the North. These streams, which are spread over the valleys, closely resemble those of still active volcanoes; they are destitute of any kind of vegetation, and give a dreary disconsolate aspect to the country where they are found. The Mexicans call such regions, very correctly, *mal pais*.

Near the culmination point of the Sierra Madre, the triassic formation is replaced by carboniferous limestone; and then, for a distance of twelve miles, the rocks consist of eruptive granite, gneiss, and mica slate. On the western side of the Sierra Madre the carboniferous limestone again appears, as well as the trias, and finally the white and yellow jura sandstone, and the lava streams in the valleys.—(*Marcou, Résumé of a Geological Reconnoissance, extending from Napoleon, at the Junction of the Arkansas with the Mississippi, to the Pueblo de los Angelos in California*, doc. 129, p. 46.)

16. Mount Taylor.

Page 62.—"Mount Taylor, which is also known in the country under the names of *Ciboletta* or Sierra de Matoya, attains a height of 10,000 feet above the level of the sea. It lies near the Sierra Madre, but shows an entirely separate cone, whose blue summit we could distinguish a long way off, in open parts of the country. Numerous streams of lava proceed in all directions from this great extinct volcano, several of them stretching from ten to fifteen leagues. There are also several volcanic cones in the Sierra Madre, at the part where the road leads across it from Pueblo de Zuñi, and towards the south, at the distance of about fifteen leagues, is another great volcanic cone, with two or three subordinate ones."—(*Marcou, Résumé Explicatif*, &c. p. 114.)

In a small collection of specimens from these mountains that Lieutenant Whipple, at my request, sent to the Baron von Humboldt, there were some of trachyte from the neighbourhood of Mount Taylor and Cienequilla. After a careful examination, it appears that this trachyte had the formation characteristic of the western declivity of the Rocky Mountains, oligoclas and hornblende, resembling that of the volcano of Orizaba and the island of Egina.

17. Inscription Rock.

Page 69.—"Inscription Rock and the whole highland, which extends almost to Zuñi, consists of rocks of the Jura formation. This formation, however, is not peculiar to the Estacado, but forms also the summit of the plateau which is seen towards the north in the direction of the Canadian river, between the Canadian and the Raton Mountains, as well as on most of the heights from the Rio Pecos to the foot of the Sierra de Sandia. On examination, we found it also on the western side of the Rio Puerco, where this formation, intersected by streams of lava, fills the whole district between Covero and the Sierra Madre, and passing between Inscription Rock and the Pueblo de Zuñi, forms plateaux that extend in the direction of Fort Defiance and Cañon de Chelly."—(*Marcou, Résumé of a Geological Reconnoissance*, &c.)

18. COAL AT THE ZUÑI RIVER.

Page 82.—At some places, as at El Oyo Pescado near Zuñi, and in the neighbourhood of Fort Defiance near Cañon Chaca, beds of coal-slate are found in the loam, but only three or four inches thick, so that they would probably not pay for the working.

19. STRUCTURE OF THE VALLEY OF ZUÑI.

Page 94.—The valley in which Pueblo de Zuñi is situated, as well as that of the river of the same name, consists of Rocks and mountains of the triassic formation, which here and in the prairies are of sandstone and red loam, with dolomite and gypsum.—(*Marcou*, doc. 129. p. 46.)

20. PETRIFIED FORESTS.

Page 119.—"On the fourth steppe, in the beds of variegated sandstone of the German geologists, are found numerous pieces of petrified wood, and sometimes even whole trees. On the western side of the Sierra Madre, between Zuñi and the Colorado Chiquito, I came upon a real petrified forest, with trees of the length of from thirty to forty feet, and three or four feet in diameter, broken off in pieces of from six to ten feet long. The cellular tissue was almost entirely gone, and replaced by a very close flint of the most superb colour, that would have afforded beautiful pieces for jewellery work. The Indians of these regions use these stones for ornaments, and also make arrow points of them. These trees, of which some are standing upright enclosed in sand, mostly belong to the family of the Coniferæ, but some to the tree ferns and Calamodendrons."—(*Marcou, Résumé Explicatif*, &c. p. 59.)

21. SPECIMENS OF PETRIFACTION.

Page 120.—Extract from a Lecture by Herr *Geh. Med. Rath* Goppert, Director of the Botanical Garden at Breslau, "On the Fragments of Wood brought by Möllhausen from the Petrified Forest."

"To the grand beds of petrified trunks discovered hitherto in the most recent formations, according to Burckhardt, Ehrenberg, Russegger and others, in various parts of the Lybian and Egyptian deserts; at Pondicherry and at Java, according to Schmid and Junghahn (which I have myself described in the Fossil Flora of Java), must now be added the remarkable petrified forest discovered by Mr. Möllhausen in New Mexico; from which I am enabled, by the kindness of Alexander von Humboldt, to examine some specimens. Mr. Möllhausen observed that among the broken trunks many had fallen entirely into pieces with horizontal surfaces, a peculiarity of petrified wood which I have myself noticed, and particularly in that taken from the coal formations, without my being able to assign any sufficient cause for this phenomenon. I observed it on a grand scale in the great bed of petrified trees at Radavenz in Bohemia; and I have seen before, while examining fossil woods, that a proportionally slight stroke with the hammer on the middle of a petrified trunk would suffice to separate large pieces with horizontal surfaces.

"Although in general the petrified woods in the above mentioned deposit appear, as far as they have been examined, to consist almost wholly of Dicotyledons, and only in few cases of Coniferæ, the six specimens forwarded to me by Mr. Möllhausen all belong to the coniferous species, and indeed to the *Abietinæ;* and, like those of the coal formations, show no concentric circles in the wood, or at most only very faint and indistinct traces of them. A specimen which I examined with particular attention seemed to belong to the Araucaria type, and after having been considered with reference to the already described species, was named in honour of its discoverer *Araucarites Möllhausianus.*

"The petrifying material is mostly flint, though partly hornstone, chalcedon, and even jasper, tinted more or less red by oxide of iron, and often strikingly resembling the beautiful woods that form the ornaments of the Perm formations of Saxony. The specimens are to be seen in the Mineralogical Cabinet of the University of Berlin."—(*H. R. Goppert.*)

22. Volcanic Region.

Page 124.—"Between the Rio Grande and the Rio Pecos, the sandstone, which takes the place of the chalk, is covered with streams of basalt. I have not been able to ascertain whether these streams have proceeded from Cerrito, or Mount Taylor, an extinct volcano of more importance than the former, which lies westward of the road from Albuquerque to Fort Defiance. The road from Albuquerque to Zuñi intersects several lava streams, and follows others which resemble in appearance those covered with scoriæ and pumice stone seen at Etna and Teneriffe. In the valleys through which they wind, they cover an area of from fifteen to twenty leagues, and are distinguished by the Mexicans by the name of *mal pais.* The most westerly of these lava streams ends a quarter of a mile before Pueblo de Zuñi."—(*Marcou.*)

23. San Francisco Mountain.

Page 155.—From the elevated plateau which separates Zuñi from the Colorado Chiquito, there are seen towards the west, at the distance of more than forty leagues, the summits of an immense range of mountains. This chain, known to trappers by the name of Sierra de San Francisco, is situated under the 35° north latitude and in longitude 111° 50′ west of Greenwich. It receives the spurs of the Sierra Mogoyon, and is formed by a line of burnt-out volcanoes, extending as far as 113° 30′ west longitude. In this region there are found numerous magnificent craters, to which I can give no name, as they are otherwise unknown, with the exception of two, which Captain Sitgreaves, on his exploring journey to the Colorado, named the San Francisco and Bill Williams mountains. These volcanic regions occupy the space between the lines of eruptive rocks of the Sierra Mogoyon and the lofty plateaux, or *Mesas,* formed by the sedimentary strata of mountain limestone, and the new red sandstone of the English geologists appearing in both the sedimentary and eruptive formations, and occupying a belt stretching from west to east, and including the volcanoes of Sierra Madre, Mount Taylor, and Cerrito. On the right bank of the Colorado Chiquito, above the Falls, there are seen on the Mesas a group of eight or ten basaltic hills, evidently belonging to the great volcano of San Francisco. The great crater of the San Francisco mountain lies behind Leroux's Spring, and the highest point of what is left of the principal summit rises 12,500 feet above the level of the sea. These regions are entirely covered with volcanic rocks, such as diorite, greenstone, basalt, trachyte, obsidian and lava; you come to beds of ashes several feet thick, and finally to lava streams, chiefly running towards the south, as they follow the valleys of the tributaries of the San Francisco and Bill Williams Fork rivers. The study of this region of ancient volcanoes would be of the greatest interest, but unfortunately the country is almost inaccessible, from its position and from the number of hostile Indians by which it is infested. When I passed it in 1854, everything was covered with snow, and the thermometer fell every night to twenty or twenty-five degrees below zero of the Centigrade thermometer.—(*Marcou.*)

24. MOUNTAIN SYSTEM.

Page 214.—From the Cactus Pass to the union of the Bill Williams Fork with the Great Colorado, we passed one after another three or four mountain chains, running from north to south, and intersecting the chain of the Mogoyon system. These mountains, which belong to the system of the Sierra Nevada, and to those we called the Cerbat mountains, are entirely formed of eruptive and metamorphic rocks, with some beds of conglomerate and red loam of the tertiary epoch. Along the Bill Williams Fork, I perceived several veins of lead ore containing silver, a sign that silver is not scarce in these mountains.—(*Marcou, Résumé of a Geological Reconnaissance.*)

25. VOLCANIC CONES.

Page 293.—Several small extinct volcanic cones were found as soon as we had crossed the Colorado; we counted five or six in the valley connected with the Soda Lake, in which the Mohave river loses itself.—(*Marcou, Résumé Explicatif,* &c. p. 115.)

26. THE SODA LAKE.

Page 293.—The Mohave river, which rises at the foot of the San Bernardino mountains and flows towards the east, loses itself in a salt lake (Soda Lake), instead of falling into the Colorado, as had been supposed. This salt, or soda lake, which occupies an area of more than four leagues square, is a lake without any visible water. From a distance you see a great basin of dazzling whiteness, and on approaching you find a crisp, spongy salt crust, covering black mud, real *humus*. On digging you come, at a depth of six inches, upon water which is so strongly impregnated with salt, as to be quite undrinkable. The water of the Mohave river is not salt or brackish at any part where it continues to flow, but at the extremity, where it is stationary, it becomes, in consequence of evaporation, slightly salt. Many springs in the Californian desert vanish after having flowed only a few feet, and therefore become more or less brackish, and have crusts of salt on their margins; but if they reach the length of a hundred metres, they are only salt where they lose themselves in the ground. These springs and rivers of the desert constitute a peculiar formation, to which the name of *Formations fluviatiles salées* might be given.—(*Marcou*, p. 25.)

27. Sandstone Plateau.

Page 312.—From the point where we quitted the Mohave river to the Cayon Pass, there stretched from the Sierra Nevada a plateau of white sandstone conglomerate, of irregular stratification. This sandstone is apparently tertiary.—(*Marcou, Résumé of a Geological Reconnaissance.*)

28. Mountain Products.

Page 313.—In the Cayon Pass I found sienite trap and serpentine. The eruptive rocks that occupy almost the whole country between the Cactus Pass and the Cayon Pass, furnish admirable materials for bridges, roads, and houses; beautiful marble and red porphyry are also found there, and there is reason to hope that rich mines of gold and silver will be discovered in them.—(*Marcou*, doc. 129, p. 48.)

THE END.

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ON his return to Canada from the continent of Europe, where he had passed nearly four years in studying his profession as a painter, the author determined to devote himself to the painting of a series of pictures illustrative of American Indians and scenery. He had been accustomed in his boyhood to see hundreds of Indians about his native village, then Little York, muddy and dirty, just struggling into existence, now the city of Toronto, bursting forth in all its energy and commercial strength; but the face of the red man is now no longer seen. All traces of his footsteps are fast being obliterated from his once favourite haunts, and those who would see the aborigines of this country in their original state, or seek to study their native manners and customs, must travel far through the pathless forest to find them. To the author the wild woods were not altogether unknown, and the Indians but recalled old friends with whom he had associated in his childhood; and though at the commencement of his travels he possessed neither influence nor means for such an undertaking, yet it was with a determined spirit and a light heart that he made the few preparations which were in his power for his future proceedings.

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71